CURTIS'S
BOTANICAL MAGAZINE;

OR

Flower Garden Displayed:

In which the most Ornamental FOREIGN PLANTS cultivated in the Open Ground,
the Green-House, and the Stove, are accurately represented and coloured.

To which are added,

THEIR NAMES, CLASS, ORDER, GENERIC AND SPECIFIC CHARACTERS,
ACCORDING TO THE SYSTEM OF LINNÆUS;

*Their Places of Growth, Times of Flowering, and most approved
Methods of Culture.*

CONDUCTED

By SAMUEL CURTIS, F. L. S.

THE DESCRIPTIONS

By WILLIAM JACKSON HOOKER, L. L. D.
F. R. A. and L. S. and Regius Professor of Botany in the University
of Glasgow.

VOL. II.

OF THE NEW SERIES;

Or Vol. LV. of the whole Work.

MISSOURI
BOTANICAL
GARDEN.

> What Nature, alas! has denied,
> To the delicate growth of our isle,
> *Art* has, in a measure, supplied;
> And Winter is decked with a smile.
>
> COWPER.

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1828.

SHOUT
SHARE
IT

TO

WILLIAM TOWNSEND AITON, ESQ.

AUTHOR OF THE SECOND EDITION OF THE HORTUS KEWENSIS, AND

THE ABLE DIRECTOR OF THE ROYAL GARDENS OF KEW,

WHO HAS HONOURED THIS WORK WITH HIS PATRONAGE AND

VALUABLE ASSISTANCE,

THIS SECOND VOLUME OF THE NEW SERIES

OF

THE BOTANICAL MAGAZINE

IS DEDICATED,

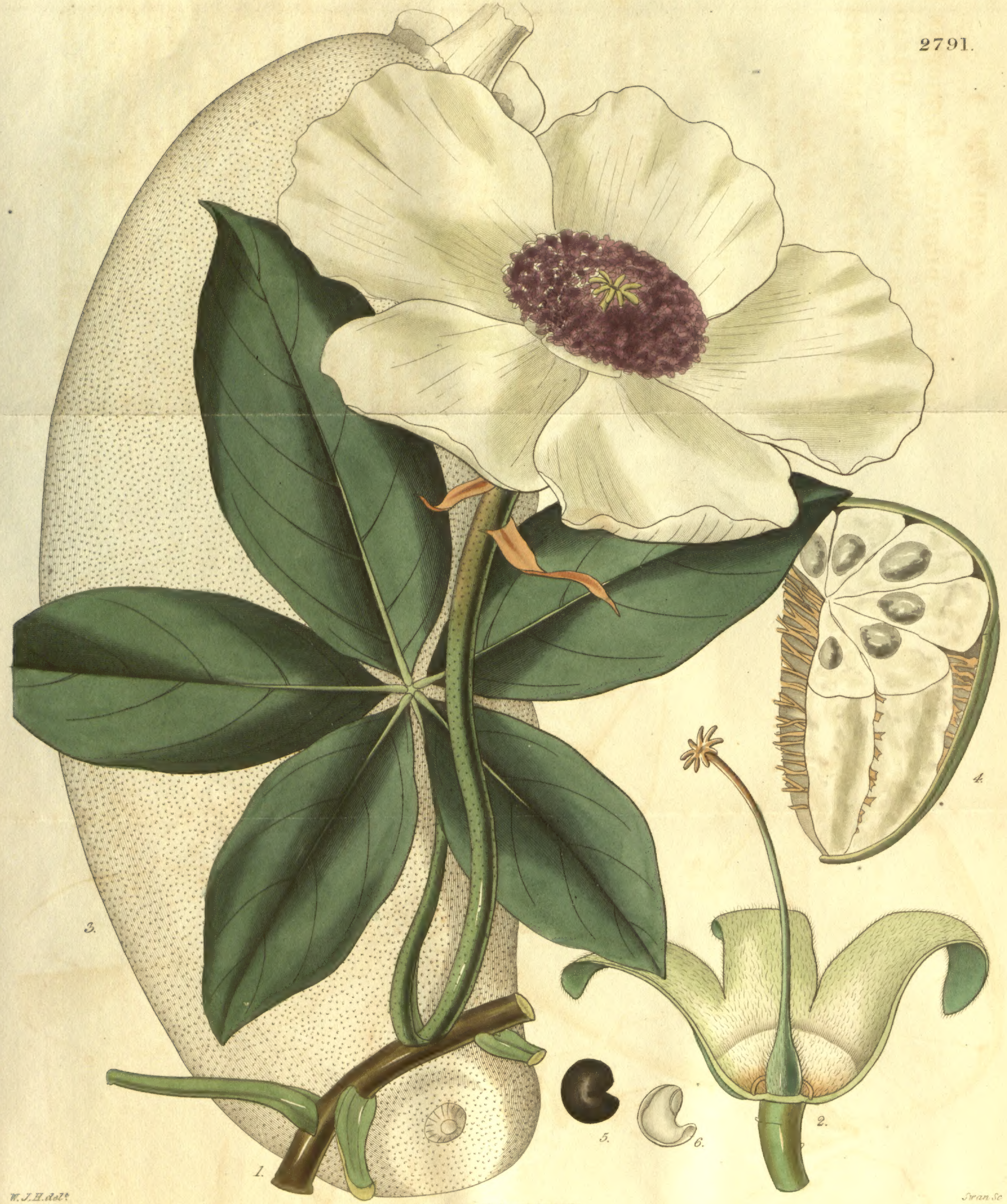
WITH SENTIMENTS OF THE HIGHEST REGARD AND ESTEEM,

BY HIS FAITHFUL,

AND VERY OBEDIENT FRIEND AND SERVANT,

W. J. HOOKER.

2791.



W. J. H. delt.

Pub. by S. Curtis. Walworth Jan. 1. 1828.

Swan Sc.

(2791, 2792)

ADANSONIA DIGITATA. ETHIOPIAN SOUR-GOURD, OR MONKIEY BREAD.

Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—BOMBACEÆ. *Br.*)

Generic Character.

Cal. simplex deciduus. *Stylus* longissimus. *Stigmata* plura. *Caps.* lignosa, 10-locularis, pulpa farinacea, polysperma.

Specific Name and Synonyms.

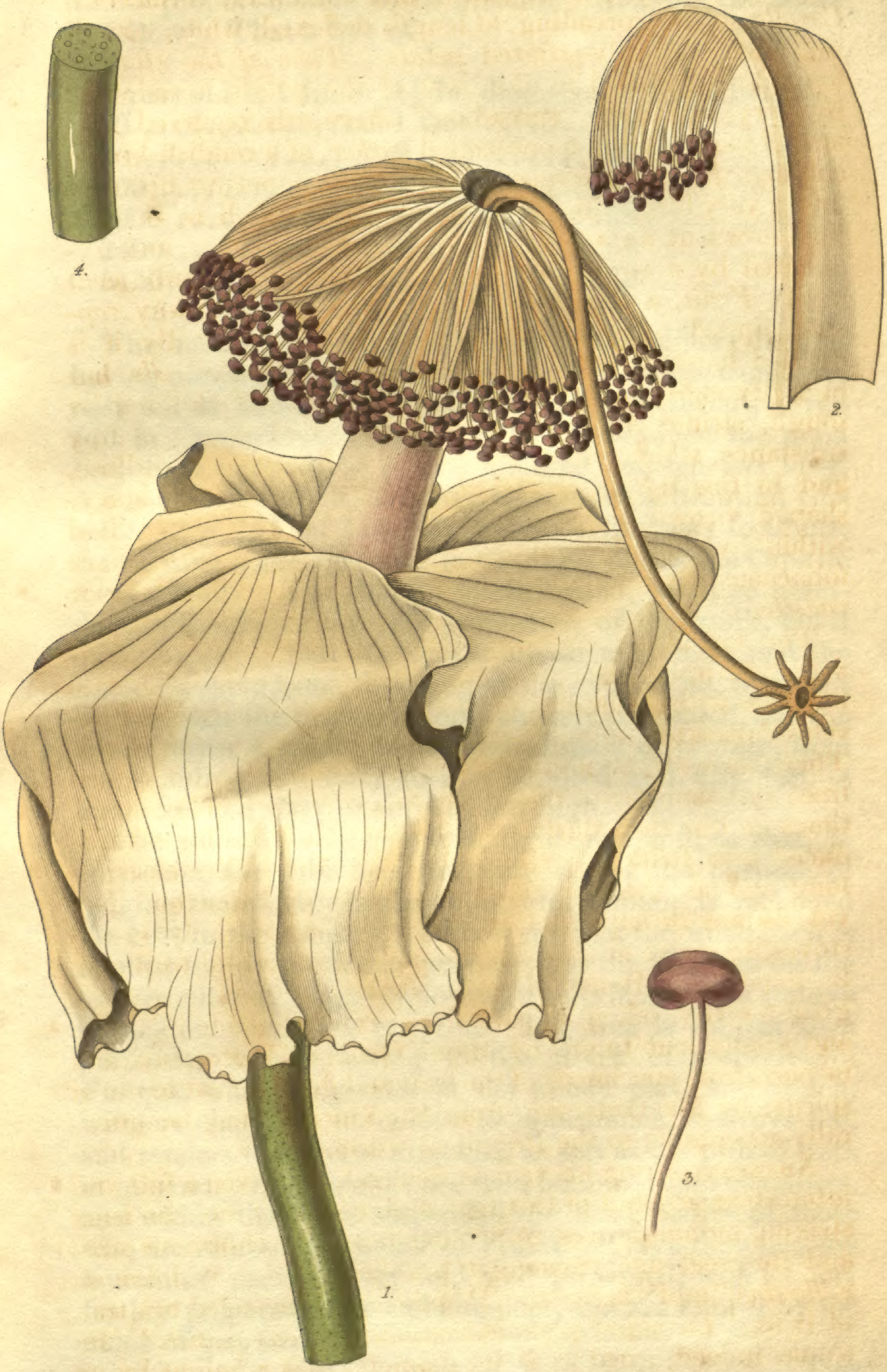
ADANSONIA *digitata.*
ADANSONIA digitata. *Linn. Syst. Veget. p.* 620. " *Cav. Diss. v.* 5. *p.* 298. *t.* 15." *Lam. Dict. v.* 1. *p.* 370. *Illustr. t.* 588. *Willd. Sp. Pl. v.* 3. *p.* 730. *Aiton Hort. Kew. ed.* 2. *v.* 5. *p.* 195. *De Cand. Syst. Veget. v.* 1. *p.* 478. *Spreng. Syst. Veget. v.* 3. *p.* 124.
ADANSONIA Baobab. *Linn. Sp. Pl. p.* 960. *Gærtn. de Fruct. v.* 2. *p.* 253. *t.* 135. *f.* 5.
BAOBAB. *Bauhin Hist. v.* 1. *p.* 110. "*Adanson in Act. Paris,* 1761, *p.* 218. *t.* 16, 17."

DESCR. A *Tree* of moderate elevation, but whose trunk is of vast thickness, from twenty to thirty feet in diameter, soon dividing into branches of great size, and bearing a dense mass of *leaves,* which are digitate, quinate, glabrous, petiolated; the *leaflets* elliptical, scarcely acuminated, veined: *petiole* cylindrical, downy. *Flowers* axillary, solitary, very large, pendent. *Peduncle* 4—6 inches long, terete, pubescent, with about two linear-lanceolate bracteas near the top; within, having five principal tubular vessels. *Calyx* very large, cup-shaped, externally green and pubescent, within pale and silky, cut into five, large, revolute segments: its substance thick, and somewhat coriaceous. *Corolla* of five spreading, at length deflexed, white, roundish, waved, faintly-striated *petals*. *Tube of the stamens* long, thick, united to the base of the petals, terminated by very numerous, spreading, afterwards recurved *filaments*, each bearing a one-celled *anther*, of a reddish-brown colour. *Pistil: Germen* ovate, silky, tapering upwards into a very long, thickish, filiform *style*, which is, in age, bent down at an angle in a very curious manner, and terminated by a *stigma* of seven to ten spreading, pubescent rays. *Fruit*, a large, oblong (indehiscent?), downy *capsule*, tipped with the base of the style. Internally it is divided longitudinally into eight to ten or more *cells*, but in a dry state, the partitions seem to be only formed by tough, stringy fibres. Each cell is filled with a pulpy substance, which, when old and dry, becomes medullose, and in this the *seeds* are immersed. These are kidney-shaped, brown, shining, hard, with a few pale dots, filled within by the white, fleshy *embryo*, whose *cotyledons* are foliaceous, and singularly convoluted around the inferior *radicle*.

The ADANSONIA *digitata*, ETHIOPIAN SOUR GOURD, MONKIEY BREAD, OR BAOBAB, is a native of Senegal. It is said likewise to be found in Egypt and Abyssinia, and is besides cultivated in many of the warmer parts of the world. There seems to be no question that it is the largest known tree; the diameter of the trunk, ADANSON says, being sometimes no less than thirty feet. Although it has been introduced into Britain, according to the Hortus Kewensis, so long ago as the year 1724, by WILLIAM SHERARD, Esq. yet, as may be supposed, so vast a tree is not likely, in our stoves, to arrive at that size, when its flowers and fruit may be expected. Hence, I trust, that representations of so great a rarity, taken, in part, from drawings made in India, and kindly lent to me by Major General HARDWICKE, and in part, from specimens of the fruit and flowers sent to me in spirits, by Mr. GUILDING, from St. Vincent, may be generally acceptable to the Botanical world.

ADANSON, during his visit to Senegal, has given a full and interesting account of this tree, and, certainly, not the least striking circumstances respecting it are, its enormous size, and its great age, whence it has been called "*Arbre de mille Ans*," and whence too, HUMBOLDT has been led to speak of it as, "*the oldest organic monument of our planet.*" Its trunk, indeed, great as is its diameter, has a height by no means

2792.



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W.J.H. delt

Swan Sc

means proportionable to its breadth. Adanson calculates as follows: That a tree of

1 year old is	1 In. or 1½ In. diameter,	5 In. in height.
20	1 foot	15
30	2	22
100	4	29
1000	14	58
2400	18	64
5150	30	73

The roots, again, are of a most extraordinary length, having numerous ramifications. In a tree, whose trunk was only ten or twelve feet high, with a trunk seventy-seven feet in circumference, Adanson has determined the main branch, or tap-root, to be one hundred and ten feet long. A figure of the whole tree may be seen in a beautiful vignette, at p. 141, of Lord Macartney's Embassy to China, drawn from a fine specimen in St. Jago, one of the Cape de Verd islands. The foliage there, indeed, is not so abundant as to conceal the vast proportion of the trunk, but it often happens, that the leaves are so numerous, and the branches spread out, drooping at the extremities, to such a degree, that the trunk is almost entirely concealed, and the whole forms a nearly hemispherical mass of verdure, from one hundred and forty to one hundred and fifty feet in diameter, and sixty or seventy feet high.

The wood is pale coloured, light, and soft, so that, in Abyssinia, the wild bees perforate it, for the purpose of lodging their honey in the holes, which honey is reckoned the best in the country. I know not that the wood itself is applied to any particular purpose, but the Negroes on the eastern coast of Africa employ the trunks in a certain state to a very extraordinary purpose. The tree is subject to a particular disease, owing to the attack of a species of Fungus, which vegetates in the woody part, and which, without changing its colour or appearance, destroys life, and renders the part so attacked, as soft as the pith of trees in general. Such trunks are then hollowed into chambers, and within them are suspended the dead bodies of those who are refused the honor of burial. There they become mummies, perfectly dry and well preserved, without any further preparation or embalmment, and are known by the name of *guiriots*.

This plant, like all of the neighbouring order of MALVACEÆ, is emollient and mucilaginous in all its parts. The leaves dried and reduced to powder constitute *lalo*, a favourite article with the natives, and which they mix daily with their food, for the purpose of diminishing the excessive perspiration to which they are subject in those climates, and even the Europeans find it serviceable in cases of diarrhæa, fevers, and other maladies.

The fruit is, perhaps, the most useful part of the tree. Its pulp is slightly acid and agreeable, and frequently eaten; while the juice is expressed from it, mixed with sugar, and constitutes a drink which is valued as a specific in putrid and pestilential fevers. Owing to these circumstances, the fruit forms an article of commerce*. The Mandingos convey it to the eastern and more southern districts of Africa, and through the medium of the Arabs, it reaches Morocco and even Egypt. If the fruit be decayed or injured, it is burned: the leys are boiled with rancid oil of palm, and the negroes use it instead of soap.

The flowers are large and handsome, and on their first expansion, as given at t. 2791, have a very different appearance to what they put on in a more advanced stage, as seen at t. 2792. There is a solitary tree planted in the island of St. Vincent, from which Mr. GUILDING gathered the flowers and fruit he has so obligingly sent to me, and which are produced abundantly, though the plant has not attained a height of more than thirty feet. These flowers and fruit, Mr. GUILDING observes, are both pendent.

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* In BOWDICH's account of Banjole, it is mentioned that this fruit possesses an agreeably acid flavour, and, being very abundant, it forms a principal article of food among the natives, who season many of their dishes with it, especially a kind of gruel made of corn, and called *Roöy*. Mr. BOWDICH further observes, that this tree loses its leaves before the periodical rains come on.

TAB. 2791. Fig. 1. Flower and Leaf. 2. Calyx and Pistil. 3. Capsule. 4. Section of ditto. 5. Seed. 6. Embryo.—*Natural size.*

TAB. 2792. Fig. 1. Flower, drawn from a more advanced specimen. 2. Portion of the Tube of the Stamens. 3. Stamen. 4. Section of the peduncle.—*Natural size.*

2793.

W. J. H. delᵗ

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Swan Sc.

MALVA MORENII. BROAD-LOBED VERVAIN MALLOW.

****

Class and Order.

MONADELPHIA POLYANDRIA.

Generic Character.

Cal. duplex: exterior triphyllus. *Capsulæ* plurimæ, 1—2-polyspermæ, in orbem dispositæ.

Specific Character and Synonyms.

MALVA *Morenii;* hirsuto-scabra, foliis inferioribus quinquelobo-cordatis inciso-crenatis superioribus quinquepartitis incisis crenatisque, pedunculis terminalibus axillaribusque (plerumque) corymbosis.
MALVA Morenii. "*Pollin. Veron.* 1816." *Sprengel Syst. Veget. v.* 3. *p.* 91.
MALVA alceoides. *Tenore Prodr. Fl. Neap. Suppl.* 1. *p.* 62. *t.* 64. *Fl. Neap. v.* 2. *p.* 109.
MALVA Alcea. β. *Morenii. De Cand. Syst. Veget. v.* 1. *p.* 432.

DESCR. *Root* perennial, throwing up many rounded or subangular *stems,* which are but little branched, and, as well as the leaves, scabrous, with shortish simple or branched hairs. *Leaves* petiolate, the lower ones orbiculari-cordate, five-lobed, the lobes obtuse, broad, inciso-crenate, the upper ones 5-partite, the segments somewhat wedge-shaped, laciniated, and subcrenated, all of a darkish-green colour, paler beneath. *Stipules* linear-lanceolate, hairy. *Flowers* in terminal and axillary *peduncles,* corymbose (rarely solitary); *corymbs* accompanied by a pair of small leaves. *Pedicels* shorter than the flower. *Calyx* quinquefid, with the outer leaflets linear. *Petals* elongato-cordate, with rather a deep sinus at the extremity, pale pinkish-purple, striated. *Column* of filaments and anthers, pale purple, a little shorter than the styles.

Whether or not this handsome plant may be a variety of Malva *Alcæa* must be left for future observation. Its appearance is very different in the Glasgow Garden, where it is cultivated from seeds sent by Dr. Fischer of Gottingen. It flowers in July.

It is a native of Italy, particularly about Naples, where likewise the Malva *Alcæa* grows, from which Professor Tenore, who has seen them both abundantly in a wild state, considers it to be quite distinct.

Fig. 1. Root-leaf.—*Natural size.*

2794.

W. J. H. del.

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CROTON CASTANEIFOLIUM. CHESNUT-LEAVED CROTON.

****

Class and Order.

MONŒCIA MONADELPHIA.

(Nat. Ord.—EUPHORBIACEÆ.)

Generic Character.

MASC. *Cal.* 5-partitus. *Cor.* pentapetala. *Stam.* 10—15. FŒM. *Cal.* polyphyllus. *Cor.* plerumque abortiva. *Styli* 3, bi-multifidi. *Caps.* 3-locularis.

Specific Character and Synonyms.

CROTON *castaneifolium;* herbacea, foliis lanceolatis plicato-nervosis serratis glabris, racemis axillaribus solitariis, caule petiolis pedunculis capsulisque hispidis.

CROTON castaneifolium. *Linn. Sp. Pl. p.* 1424. *Lam. Dict. v.* 2. *p.* 213. *Willd. Sp. Pl. v.* 4. *p.* 534. *Pers. Syn. Pl. v.* 2. *p.* 583. *Spreng. Syst. Veget. v.* 3. *p.* 877.

ACALYPHA australis. *Linn. Sp. Pl. p.* 1424. *(fide Lam.)*

RICINOIDES castaneæfolia. " *Plum. Cat.* 20. *ed. Burm. t.* 239. *f.* 1. *(mala.)*

DESCR. An annual, erect, branching *plant,* two feet or more in height, with a thick, succulent, roundish, hispid *stem;* hairs softish and spreading. *Leaves* remote, 4—6 inches long, alternate, lanceolate, broadest at the base, glabrous, serrated, with many oblique, parallel, strong, generally simple nerves, which give them a plicated appearance. *Petioles* two inches long, succulent, hispid, with a small, setaceous, generally bifid *stipule* on each side, at the base. *Spikes* or *racemes* axillary, about as long as the petioles: *Peduncle* slender, hispid, with a few bracteated, almost sessile flowers at the extremity, of which one or two of the lower are *female*, the rest *male*. *Male* flowers with a calyx of five, deep, ovate segments or leaflets, green. *Corolla* of five, oblong, waved *petals*. *Stamens* 10, five upper and five lower, all united with the base of a columnar, abortive, subtrigonous *pistil*. *Filaments* spreading, nearly horizontally: *Anthers* roundish, pale yellow, with a reddish gland of union between the lobes. *Female* flower with five, upright, oblong, and acute leaflets, and three outer and smaller ones. *Corolla* of five, small, erect petals. *Pistil* oblongo-rotundate, with a sessile, white, many-rayed *stigma*, clothed with numerous soft bristles. *Fruit* three-lobed, hispid.

Seeds of this CROTON were sent by Mr. LOCKHART from Trinidad to the Glasgow Botanic Garden, where they produced flowering plants in August, 1827. PLUMIER's figure above referred to is so ill executed, that I cannot quote it as a certain synonym to this plant; but the descriptions of other authors sufficiently accord with it. Probably the C. *palustre* of LINNÆUS is scarcely specifically distinct.

It has nothing to recommend it as a plant worthy of cultivation, except, indeed, in the gardens of the curious.

Fig. 1. Male Flower. 2. Front view of a Stamen. 3. Back view of ditto. 4. Female Flower. 5. Calyx and Corolla of ditto spread out, from which the Pistil, at fig. 6, has been removed. 7. Young Fruit. 8. Soft hair or bristle from the Fruit.—All more or less *magnified*.

2795.

W.J.H. delt.

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(2795)

ONCIDIUM PAPILIO. BUTTERFLY ONCIDIUM.

****

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum explanatum, lobatum, basi bituberculatum. *Petala* patentia (2 antica nunc connata). *Columna* alata. *Massæ Pollinis* 2, postice bilobæ, media affixæ processu communi stigmatis. *Br.*

Specific Character and Synonym.

ONCIDIUM *Papilio;* foliis solitariis ovalibus pictis patentibus, scapo articulato ancipite paucifloro, sepalis superioribus linearibus longissimis, inferioribus distinctis ovato-lanceolatis undulatis, columna bicorni, alis fimbriatis. *Lindl.*

ONCIDIUM Papilio. *Lindl. in Bot. Reg. t.* 910.

DESCR. *Bulb* somewhat orbicular, compressed, dark purple; bearing a single, elliptical, one-nerved, coriaceous *leaf*, of a purple-brown colour, spotted and blotched with green, the spots smaller on the underside. *Scape* two to three feet long, springing from the base of the bulb, flexuose, jointed, with sheathing, membranous bracteæ at the joints, lower articulations terete, very slender, spotted with purple, upper ones very much compressed, sharp at the edges and quite ancipitate. *Flowers* solitary, or two, at the end of the scape, very large and beautiful. Three posterior *petals*, at least three inches long, linear, the margins revolute, the back lurid green, the inside deep purple: two *anterior* petals decurved, subfalcate, lanceolate, waved, bright yellow, with transverse red-brown blotches, longer than the lip. *Lip* two inches long, deep yellow, pendent, three-lobed, two lateral lobes forming a cordate base to the lip, and dotted with reddish-brown, having a three-lobed, whitish crest, spotted with red, the middle lobe two-toothed at the base; terminal lobe cordate, its sides involute, its margins waved; a broad irregular band of red-brown runs along just within the margin. *Column* short, yellow, fringed at the upper margins with glandular soft spines, of which the upper one on each side is the longest, lower down bearing two, yellow, fleshy wings, obscurely fringed with glands at the extremity. *Anther-case* helmet-shaped, two-celled. *Pollen Masses* two-lobed at the back, placed at the point of a thin, ovate, membranous, white *pedicel*, whose margins are revolute, and which has a large brown gland at the base. *Germen* small, lineari-clavate, striated.

From the stove of the Glasgow Botanic Garden, to which the plants were liberally communicated by the late Baron De Schack, from Trinidad. The species blossomed in 1826, and again in June, 1827. It is among the most singular and most beautiful of the extensive parasitic family with which our hothouses are now so abundantly stored; and is well named Oncidium *Papilio* by Mr. Lindley.

Fig. 1. Column and part of the Lip. 2. Front view of the Column, from which the Anther-case is removed. 3. Anther-case. 4. Pollen Mass. 5. Back view of ditto.—All more or less *magnified*.

2796.

W. J. H. del.

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Swan Sc.

OROBUS SESSILIFOLIUS. SESSILE-LEAVED BITTER-VETCH.

****

Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. campanulatus 5-fidus, lobis 2 superioribus brevioribus. *Corolla* papilionacea. *Stamina* diadelpha. *Stylus* gracilis linearis, apice villosus. *Legumen* cylindraceum, oblongum, 1-loculare, bivalve. *Semina* hilo lineari. *D. C.*

Specific Character and Synonyms.

OROBUS *sessilifolius;* caulibus simplicibus striatis, foliis binis ternatisve lineari-subulatis mucronatis, stipulis angusto-semisagittatis petiolo multo longioribus, laciniis calycinis subæqualibus.

OROBUS sessilifolius. "*Smith Fl. Græc. n.* 692. *Sm. Prodr. Fl. Græcæ v.* 2. *p.* 64." *De Cand. Syst. Veget. v.* 2. *p.* 380.

OROBUS digitatus. *Bieb. Fl. Taur. Caucas. v.* 2. *p.* 155. *Sprengel Syst. Veget. v.* 3. *p.* 269.

OROBUS Pyrenaicus. *Pall. Ind. Taur. Habl. Taur. p.* 121. *(fide Biebersteinii).*

OROBUS orientalis; foliis angustis costæ brevissimæ innascentibus. *Tournef. Cor. p.* 26.

DESCR. Several simple *stems* scarcely a foot in height, erect, striated, slightly pubescent, as seen under a microscope, at the base, arise from the same *root*. *Leaves* distant, composed of two or three leaflets placed at the extremity of an exceedingly short footstalk, linear-subulate, with about five striæ, scarcely pubescent, slightly grooved on the upper

per surface; whether the leaflets be two or three, they are always accompanied by another very minute, abortive leaflet. *Stipules* semisagittate, narrow, thrice as long as the petiole. *Peduncles* almost twice as long as the leaves, terminating in a raceme of a few large, drooping flowers. *Calyx* green, glabrous, obtuse at the base, five-nerved, the teeth nearly equal in length. *Vexillum* deep purple, redder towards the base. *Alæ* purple at the extremity. *Carina* with an acuminated point, greenish. *Stamens*: nine united and one free. *Pistil: Germen* linear, slightly pubescent: *Style* bent at an angle, plain and broader upwards, very pubescent on the underside beneath the *stigma*.

This plant is a native of woods in the mountainous parts of Tauria, according to MARSHALL BIEBERSTEIN, as well as of Greece, about Athens, and near Messina, where it was discovered by Dr. SIBTHORP. The flowers are very beautiful, and produced, in the Glasgow Botanic Garden, early in July, in the open air.

SPRENGEL quotes the OROBUS *ensifolius* of LA PEYROUSE'S FL. *Pyrenaica* under this species: but Mr. BENTHAM, in his valuable "Catalogue des Plantes Indigénes des Pyrenées, &c." refers the O. *ensifolius, α,* of LA PEYROUSE to the O. *canescens* of LINNÆUS, and the variety β of the same author to the O. *albus* of LINNÆUS.

Fig. 1. Carina. 2. Alæ. 3. Carina of the Flower. 4. Pistil. 5. Base of a Leaf, with Stipules.—More or less *magnified*.

2797.

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NEOTTIA APHYLLA. LEAFLESS NEOTTIA.

****

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Cor. ringens: petalis exterioribus anticis labello imberbi suppositis; inferioribus conniventibus. *Columna* aptera. *Pollen* farinaceum. *Br.*

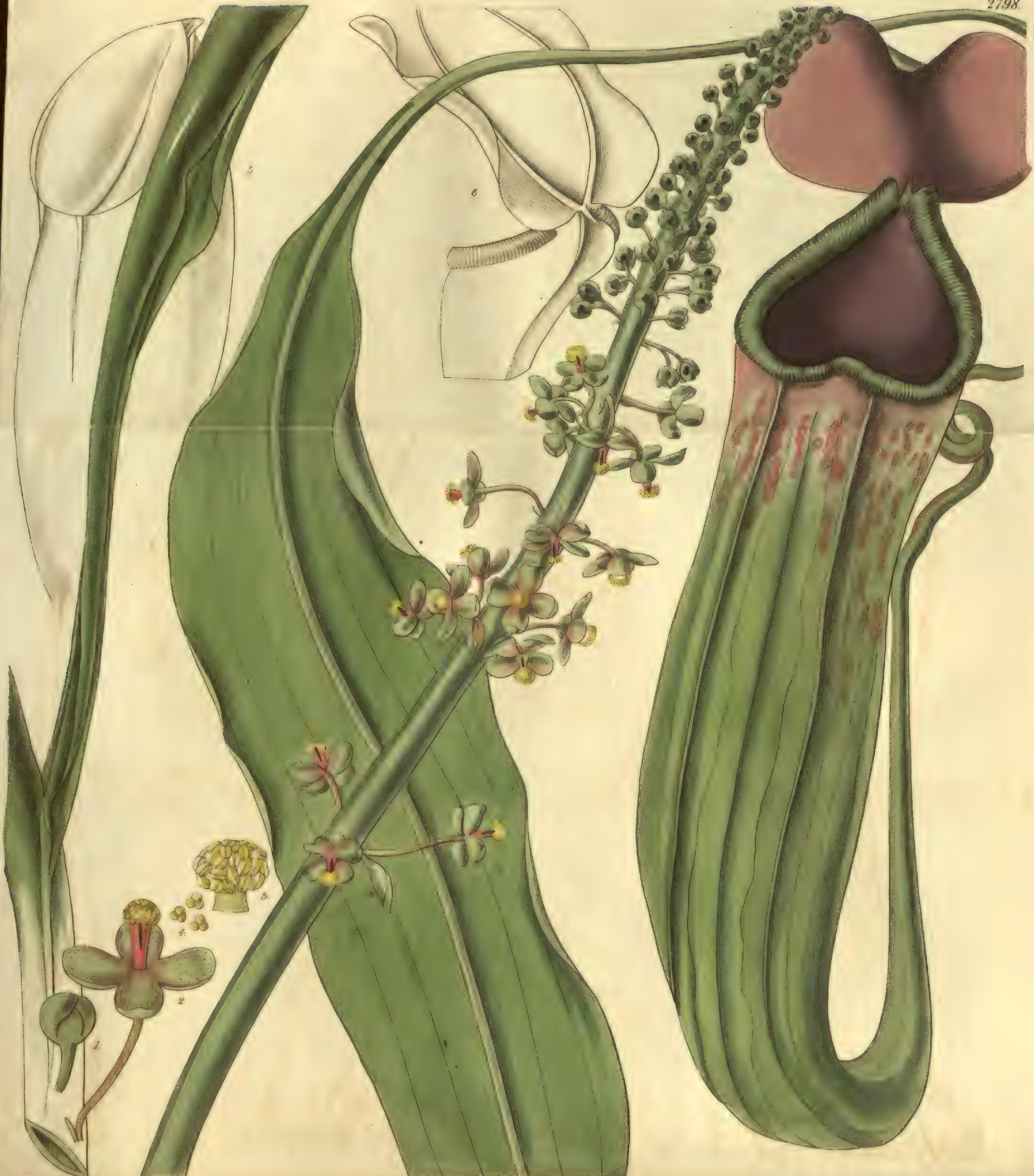
Specific Character.

NEOTTIA *aphylla;* aphylla, scapo bracteato superne floribusque pubescenti-glandulosis, perianthii laciniis tribus exterioribus lineari-acuminatis rectiusculis, basi in calcare brevi obtusissimo productis.

DESCR. *Leaves,* altogether none. *Scape* ten inches to a foot high, terete, glabrous below, pubescent with glands above: clothed at the base with rather closely-placed, above more distant, sheathing, large, membranaceous, brownish-green *scales,* gradually passing into the linear-lanceolate, pubescent *bracteæ.* *Spike* lax, of few flowers, almost entirely, as is the whole scape, of a reddish-green colour, standing out horizontally, an inch and a half long. The three outer petals, or segments of the *perianth,* linear-lanceolate, nearly straight, the two lower ones embracing the lip, and running down below it into a rather short, obtuse spur. The two upper and inner ones glabrous, of the same shape as the outer, and applied to the uppermost one. *Lip* about as long as the petals, linear-oblong, glabrous, recurved, its base uniting with the two lower exterior petals. *Column* of fructification as in N. *speciosa* and *plantaginea.*

At tab. 226 of my Exotic Flora, I have given a figure of a NEOTTIA which I have called N. *plantaginea,* which differs from N. *orchioides,* principally, in having only a single leaf, instead of many leaves, and that one oblongo-lanceolate, to each scape. The present individual, which we have received both from Mr. LOCKHART of Trinidad, and the Rev. Mr. GUILDING of St. Vincent, and have cultivated for several years, bears nearly the same relation to N. *plantaginea* as that does to N. *orchioides.* It is, however, in all the specimens that I have seen, both dried, and in a state of cultivation, entirely destitute of leaves, and the whole plant is of a singularly lurid reddish-green colour.

Fig. 1. Flower. 2. Column of Fructification. 3. Pollen Masses. 4. Extremity of the Lip.—*Magnified.*



W. J. H. del.

Pub. by S. Curtis Walworth Feb. 1. 1828.

NEPENTHES DISTILLATORIA. *Mas.* PITCHER PLANT: *male.*

****

Class and Order.

DIŒCIA MONADELPHIA.

(Nat. Ord.—ARISTOLOCHIEÆ.)

Generic Character.

MASC. *Cal.* 4-partitus, patens, interne coloratus. *Cor.* nulla. *Filamentum* columnare; *Antheræ* 15—17, connatæ.

FÆM. *Cal.* et *Cor.* maris. *Stigma* peltatum sessile. *Caps.* 4-locularis, polysperma.

Specific Character and Synonyms.

NEPENTHES *distillatoria;* caule suffruticoso subramoso cirrhis scandente, foliis sparsis oblongo-lanceolatis petiolatis aveniis decurrentibus, ascidiis subventricosis, racemis oppositifoliis prope summos ramorum subsimplicibus. *Graham.*

NEPENTHES distillatoria. *Linn. Sp. Pl. ed.* 2. *v.* 2. *p.* 1354? *Willd. Sp. Pl. v.* 4. *p.* 873? *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 420. *Lodd. Bot. Cab. t.* 1017.

NEPENTHES Indica. *Lam. Encycl. v.* 4. *p.* 458.

NEPENTHES Phyllamphora. *Sims in Bot. Mag. t.* 2629. *(non Loureiro.)*

NEPENTHES. *Linn. Fl. Zeyl. p.* 151?

PANDURA Zeylanica. *Burman Thes. Zeyl. t.* 17?

BANDURA Zingalensium. *Amman. Misc. Curios. Ann. Prim. Decur.* 2. *t.* 13?

PLANTA mirabilis distillatoria. *Grimm Miscell. Curios. Ann. Prim. Decur.* 2. *t.* 27?

UTRICARIA *vegetabilis* Zeylanensium, BANDURA cingalensibus dicta. *Plukenet Phytogr. t.* 237. *f.* 3. *Almag. Bot. p.* 394?

Descr. *Stem* eight feet high, round, below slender and somewhat woody; above, twice as thick, and more herbaceous, branching. *Buds* small, and placed above the axils of the leaves, many of them abortive. *Leaves* entire, channelled, undulated, glabrous, scattered, one to one and a half foot long, exclusive of the cirrhus but including the petiole, along which they are broadly decurrent, and which is about three inches long, semiamplexicaul, and decurrent half-way to the next leaf below, veinless, or veins only obscurely seen, and not prominent on either side till dry, after which, several slender veins and nerves are observed, nearly parallel to the middle rib, and reticulated with transverse veins: middle rib strong, prominent behind, drawn out into a *cirrhus* from ten to twelve inches long, flattened on its upper side, and convolute in the middle, enabling the plant to climb, from this point somewhat thickened and turned down, having at its extremity an erect *pitcher*, which is wedge-shaped behind when young, afterwards in its lower half obscurely conical, above this contracted a little, and nearly cylindrical, its mouth oblique, with a rounded, regularly and transversely wrinkled edge, and a round lid, connected by its posterior margin to the highest portion of the oblique mouth, where alone the wrinkled edge of the pitcher is interrupted. The outer edge of this border is revolute after the lid rises, but before this it is erect, and passes within the sides of the lid, which at that time are folded down. Diameter of the lid from back to front two inches, transversely it is two and a quarter inches. Two prominent and curved ribs (between which, and also between them and the edges, the lid, otherwise flat, is somewhat depressed) run on its upper surface from the base towards its anterior edge, and from the point of their union at the base, is projected a small awl-shaped spur, and along the back of the pitcher a nerve, which becomes less prominent towards the extremity of the cirrhus. Along the front of the pitcher are two prominent ribs, extended from the edges of the flattened surface of the cirrhus: these are more prominent than the nerve on the back, and more or less completely flatten the pitcher on its anterior surface, which is the heel of the wedge in its young state. *Lid* at first closed, afterwards raised to about a right angle with the oblique opening of the pitcher, and never again closed. Before the opening of the lid, rather more than a drachm of limpid fluid was formed within each of the largest pitchers on our specimen. This had a subacid taste, which increased after the rising of the lid, when the fluid slowly evaporated. My friend Dr. TURNER perceived it to emit, while boiling, an odour like baked apples, from containing a trace of vegetable matter, and he found it to yield minute crystals of superoxalate of potash, on being slowly evaporated to dryness. The pitcher whose contents Dr. TURNER analysed was a large one; it had not opened; and the whole fluid weighed only sixty-six grains. The upper part of the pitcher decays first; and the line at which this is observed, is often quite defined. Our largest pitchers measure six inches and a half from the highest part of the oblique mouth to the lowest part of the curvature at their base; the greatest circumference four and a half inches. *Flowers* diœcious. Perfume offensive, resembling in kind, though less in degree, that of the LILIUM *pomponium*. *Raceme* solitary, opposite to a leaf near the extremity of the branch; its extremity nodding, till the flowers expand in succession, when it is elongated, and becomes erect. *Peduncle* round, about two feet and a half long, of which about eleven inches at the base is without flowers; *pedicels* round, half to three quarters of an inch long, clustered irregularly, and frequently bifid, supporting two flowers, having a small subulate bractea on the lower side near the base, and sometimes the appearance of an abortive one opposite and nearer the flower. *Calyx* four-parted, spreading or slightly divaricated; *segments* blunt, coriaceous, containing honey, green within when first opened, afterwards red in the middle; two opposite segments slightly overlap the two others in the bud. *Anthers* numerous, collected into a capitulum on the top of a hollow club-shaped pedicel, formed by the united filaments; *pollen* an abundant yellow powder. The middle rib of the leaf, the cirrhus, the whole outside of the pitcher when young, but its ribs chiefly when old, the peduncle, pedicels, every part of the calyx which is exposed in the bud, and a narrow triangular space extending upwards from the axil of the leaf to the bud, which it includes, are covered with a rusty pubescence; every other part of the plant is smooth. The whole is green except the lower part of the stem, which is brown; but the leaves, at first darkest above, become yellow in fading, and there is a tendency in them, and in almost every other part of the plant, to become red, particularly in the lid, and especially its under side, which uniformly acquires a deep red somewhat mottled colour, though at first it is quite green.

This plant is certainly the same species as the female specimen figured from the collection of Messrs Loddiges, in Botanical Cabinet, t. 1017, under the name of N. *distillatoria*, and in Bot. Mag. t. 2629, under the name of N. *Phyllamphora*. What Linnæus meant by his N. *distillatoria* does not certainly appear, for he refers to the Cantharifera of Rumphius's Herbarium Amboinense, v. 5. t. 59. f. 2. and to the Pandura *Zeylanica* of Burmann's Thesaurus Zeylanicus, t. 17.—figures of plants which differ altogether from each other, as the first, at least, does from the subject of the present article. If any conclusion could be drawn from the bad figures of Plukenetius and Grimm, to which reference is also made by Linnæus, I should believe that these also differ from the present species. The inflorescence in Plukenetius is copied exactly from Grimm, and is certainly in great part imaginary; the rest of the figure appears to be modified from his having seen a dried leaf and pitcher, which, however, are much more reticulated than with us. Our plant differs from the description of Phyllamphora of Loureiro in the stem being branched, the leaves veinless and scattered, the inflorescence a lateral raceme, in which the pedicels are frequently bifid, supporting two flowers, and in the anthers being more numerous. In Loureiro's plant, the stem is described as simple, the leaves lineato-veined and opposite, the inflorescence a terminal, perfectly simple spike. Our plant, however, has only produced two branches besides the leading shoot; and this tendency may possibly have been given by its top having been injured several months ago. The universality of the buds in the axils of the leaves, however, makes me believe in the branching being natural. Near the extremity of each of the three shoots a raceme is produced. Our plant farther differs from Loureiro's description, in the lid never closing after it once opens; but the power of alternate opening and closing, even in his plant, was, probably imaginary, as his statement of the pitchers receiving the night-dews certainly is. The fluid which they contain is undoubtedly a secretion, but for what purpose does not appear. It is stated to have nearly filled one-third of the pitcher in Messrs. Loddiges' plant; but with us it never much exceeded a drachm, even in the largest pitchers, whose capacity was three ounces five drachms. The outline figure in Bot. Mag. t. 2629 is very good; but the detached pitcher is much too contracted in its upper half, and the lid is not nearly so flat as it always is after it has been fully opened. The site of the two large nerves is occupied by prominent ciliated wings, and the base is bent exactly in the opposite direction from that which it takes in the outline figure, and in the specimen which I have described. We have two plants which scarcely yet exceed the size of seedlings, in which these wings, strongly ciliated, are present; and, as in the detached pitcher, t. 2629, their pitchers are so bent at the base that the cirrhus passes between the wings. It is probable, therefore, that these appearances are peculiar to plants which have not yet advanced to maturity. The youngest pitcher on the large plant has the same relative situation to its cirrhus that the oldest has, and the same absence of wings. In RUMPHIUS's figure, the position of the pitchers is always, as in the detached pitcher of the Magazine, t. 2629. The imperfect figure given by AMMANNUS of his BANDURA *Zingalensium* in Miscell. Curios. Ann. Prim. Decur. 2. t. 13. seems to approach nearly to the present species.

The N. *distillatoria* of LINNÆUS is quoted by LAMARCK under N. *indica*, and, notwithstanding some difference in the description, I believe this (N. *indica*) to be our species, though reference is made from it to PLUKENETIUS, AMMANNUS, BURMANN, and RUMPHIUS, to the last indeed with doubt. Where a change of name has become necessary, it is an evil which must be endured, but as no necessity appears to exist here, I retain that by which our plant was universally known, at least in this country.

Our specimen has been constantly kept in the stove, and now produces a very striking effect, by supporting itself on the adjoining plants, and hanging from them its pitchers. It gives off suckers, but not freely, a circumstance remarked in the female plant by Mr. LODDIGES. Mr. MACNAB has succeeded in propagating two plants in this way. GRAHAM.

For the above synonyms and description I am entirely indebted to Dr. GRAHAM, who obligingly sent me a noble specimen of the male plant of this most rare and singular vegetable production, from the Edinburgh Botanic Garden in the month of August. This species of NEPENTHES appears to have been introduced into this country, according to Hortus Kewensis, in the year 1789: but it was probably shortly after wholly lost to the country, till the excellent Dr. Carey of Serampore sent to Mr. Cooper, who so ably conducts the gardens at Wentworth House, and to the Messrs. Shepherds of Liverpool, a packet of seed gathered on the Circar mountains to the North East of Bengal *, and from the liberality of these two cultivators, I believe, have originated all the plants that are now living in the country. The seed vessels Mr. Cooper describes as occupying a portion of the flower-stalk nearly twelve inches in length, as being an inch and a half long, and very like those of the genus Œnothera, particularly *Œ biennis* or *muricata*.

Mr. Lindley has given me a specimen of our N. *distillatoria*, gathered at Macao, from J. Harrison, Esq. I have a drawing of the same species which that gentleman found in the Seychelles Islands : so that the plant has probably a very extensive geographical range in India. It is to be hoped, that the other equally wonderful species of this genus, of which I possess three in my Herbarium, from Dr. Wallich, and a fourth, a native of Madagascar, gathered by Mr. Bojer, will, ere long, be introduced into our stoves: none can be more truly worthy of cultivation.

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* Dr. Graham, in the Edinburgh New Philosophical Journal, expresses an idea, that the seeds were received from Ceylon. Mr. Cooper's obliging communication at the moment of going to press, enables me to correct this error.

Fig. 1. A Flower-bud. 2. Flower. 3. Column of Stamens. 4. Pollen, *magnified*. 5. Part of an Ascidium, with the lid closed. 6. Part of another shewing a back view of a raised lid.—*Natural size.*

2799.

W. J. H. del.

Pub. by S. Curtis, Walworth, Feb. 1 1828.

GONOLOBUS NIGER. BLACK-FLOWERED GONOLOBUS.

****

Class and Order.

PENTANDRIA DIGYNIA.

(Nat. Ord.—ASCLEPIADEÆ. *Br.*)

Generic Character.

Asclepiadea. *Massæ pollinis* læves, 10, transversæ. *Cor.* subrotata. *Sem.* comosa. *Br.*

Specific Character and Synonyms.

GONOLOBUS *niger;* volubilis, foliis cordato-oblongis undulatis subtus pubescentibus, racemis corymbosis, laciniis corollæ ovatis acutis reflexis glabris.

GONOLOBUS niger. *Br. Asclep. in Wern. Trans. v.* 1. *p.* 35. *Roem. et Schultes Syst. Veget. v.* 6. *p.* 61. *Spreng. Syst. Veget. v.* 1. *p.* 846.

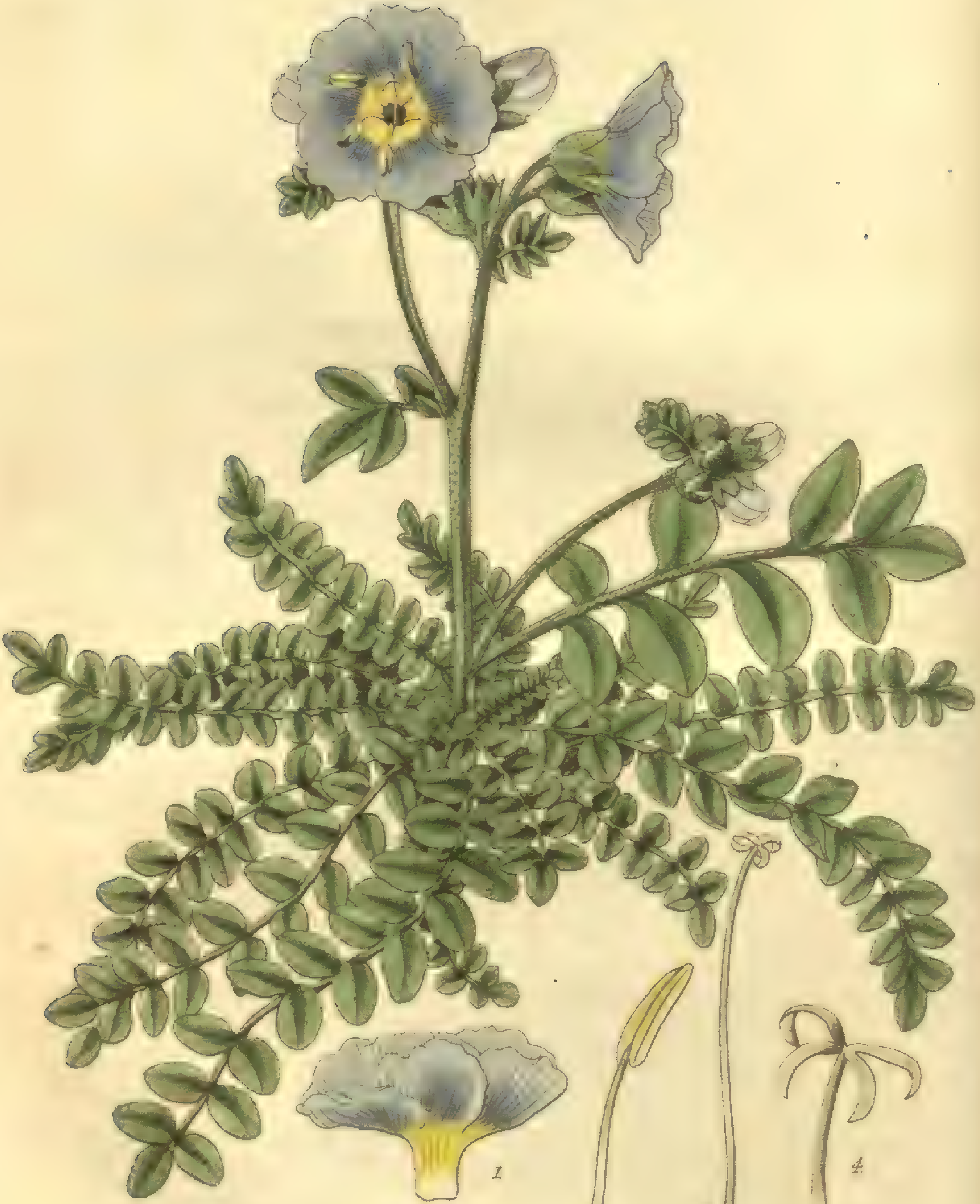
CYNANCHUM nigrum. " *Cavan. Ic.* 2. *p.* 45. *t.* 159." *Willd. Sp. Pl. v.* 1. *p.* 1255. (not of *Pers.*)

DESCR. *Stem* long, twining, terete, glabrous, gradually tapering towards the extremity, branched. *Leaves* remote, opposite, cordato-oblong, acute, waved, quite entire, glabrous above, pubescent, and paler green beneath, the lobes at the base rounded, and having a deep sinus: *petioles* frequently as long as the leaves, and glabrous, their base almost connate. *Peduncles* axillary, as long as the petioles, terminated by a raceme of several flowers; but the lower flowers being elevated upon longer pedicels than the upper and younger ones, the whole are corymbose. *Calyx* somewhat cup-shaped, with five teeth, much smaller than the corolla, greenish purple. *Corolla* deep black-purple, five-partite, rotate, the laciniæ ovate, convex, reflexed, the limb elevated into a marginal ring, within which is situated the large six-lobed inferior *corona* (fig. 2.). *Pistils* two: *Germen* roundish compressed in the inside, tapering into the shortish *styles,* and terminating in the upper, pentagonal, deep purple, flat corona; at the margin of which are five brown, pendent scales, white at their upper edge: *these* are the anther-cases; each has two cells, and two linear, waxy *pollen masses,* united in pairs by a small connecting point, which is placed between the scales, in the axil, or sinus.

Raised from seeds sent from Mexico to the Rev. J. T. Huntley of Kimbolton, a gentleman, whose collection of living plants promises to rank among the most valuable in the kingdom for rare and beautiful individuals. The seed-vessels, Mr. Huntley remarks, were larger than an apple: but in the stove, where the plant is cultivated, and where it bears its numerous singularly-coloured blossoms in the month of October, these flowers fall away without producing fructification.

Fig. 1. Single Flower, before the Segments of the Corolla are reflected. 2. Lower Corona, with the point of attachment in the centre of the upper pentagonal Corona, seen at f. 3. 4. Pair of Pollen Masses. 5. Pistils. 6. Section of the Germen, to shew the situation of the Ovules.—*Magnified.*

2800.



W. J. H. del.
Pub by S. Curtis Walworth. Feb. 1 1828.
Swan Sc.

POLEMONIUM RICHARDSONI. DR. RICHARDSON'S POLEMONIUM.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—POLEMONICEÆ.)

Generic Character.

Cal. urceolatus 5-fidus. *Cor.* subcampanulata. *Filamenta* basi dilatata. *Stigmata 3.* *Caps.* 3-valvis, polysperma. *Sp.*

Specific Character and Synonym.

POLEMONIUM *Richardsoni;* caule piloso angulato erecto, foliis pinnatis multijugis, pinnis ovato-rotundatis mucronulatis subtus pubescentibus, floribus corymbosis nutantibus, corollæ segmentis obtusis crenulatis, radice subfusiforme longissime. *Graham.*

POLEMONIUM Richardsoni. *Graham MSS.*

DESCR. *Root* perennial, very long, in the old plant three or four feet, yellow, about as thick as the finger, somewhat branched at the apex, descending deep into the sand, and tending to bind it together, very much resembling liquorice. *Stem* erect, herbaceous, green, purplish at the base, branched : *Branches* axillary, chiefly from the lower part of the stem and the crown of the root, ascending, as well as the stem, angular, and having a slightly prominent line along each flat side. *Leaves* pinnate, with an odd leaflet, common footstalk channelled, from the leaflets being narrowly decurrent, and forming a border on each side, pinnæ very numerous on the root-leaves (ten to twelve pairs), fewer on the stem-leaves, quite entire, a very few shewing a tendency to become lobed, sessile, rotundato-ovate, mucronulate, oblique, pubescent below, naked above, somewhat fleshy, middle-rib channelled, veins obscure; root-leaves depressed and spreading, star-like, on the ground, at least when the plant is young. *Flowers* in terminal corymbs, buds nodding, when fully expanded fronting outwards, large; *pedicels* round. *Calyx* persisting, ovate as well as the stem, branches and pedicels villous, and slightly viscid, five-cleft, segments ovate, pointed, spreading a little while the corolla is fully expanded. *Corolla* slightly marcescent, but soon after, falling; perfume faint, but disagreeable; tubular, tube nearly as long as the calyx, yellow, and somewhat plaited in its upper half, colourless below; *limb* of five, broad, obovate, spreading segments, minutely crenated, pale purple marked with deeper veins, darker at its base, where, on the outside, it is very slightly pubescent. *Stamens* five, included; *filaments* connivent, slender, flattened, awl-shaped, contracted at the base, inserted into the apices of small, connivent, hairy valves, which arise within the throat of the corolla, alternately with the segments of the limb; *anthers* sagittate, curved inwards, large, white; *pollen* white. *Germen* small, ovate; *style* filiform, equal in length to the filaments; *stigma* in most of the flowers four-cleft, revolute, pubescent.

Seeds gathered by Dr. RICHARDSON in 1825, from plants growing in deep sandy soil, on Great Bear Lake, in 66 degrees North latitude, and received from him in this country in 1826. The species flowered in a cold frame at the Royal Botanic Garden Edinburgh, in the beginning of October, 1827.

I have a double reason for dedicating this species to our excellent and indefatigable countryman. It is the first which has flowered among the plants raised from seeds received from him last year, and while I was in the act of writing the description, I received information of his having arrived in Edinburgh from the last successful survey of the shores of the Arctic Sea. GRAHAM.

I forbear saying any thing further respecting this beautiful and interesting plant at present, except that it comes very near to the P. *humile* of PALLAS; that Mr. MENZIES found it during his celebrated voyage with Capt. VANCOUVER, upon the North-west coast of America; and, that I believe my var. *nana* of P. *cæruleum**, gathered by Capt. SABINE in Spitzbergen, is not distinct. There are numerous specimens in Dr. RICHARDSON'S and Mr. DRUMMOND'S collections, which will at a future time enable me to offer some remarks upon the species.

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* In Linnæan Transactions, Vol. XIV. p. 377.

Fig. 1. Corolla. 2. Stamen. 3. Pistil. 4. Stigma, with four Rays.—*Magnified.*

2801.

W. J.H.del.ᵗ

Pub. by S. Curtis, Walworth Feb. 1.1828.

(2801)

POTHOS MACROPHYLLA. LARGE-LEAVED POTHOS.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—AROIDEÆ.)

Generic Character.

Spatha monophylla. *Spadix* cylindraceus, undique floribus tectus. *Perianthium* tetraphyllum. *Bacca* di-tetrasperma.

Specific Character and Synonyms.

POTHOS *macrophylla;* acaulis, foliis cordatis obtusis lobis divaricatis, spadice spatha multo breviore.
POTHOS macrophylla. *Swartz Fl. Ind. Occ. v.* 1. *p.* 269. *Willd. Sp. Pl. v.* 1. *p.* 686. *Roem. et Schultes Syst. Veget. v.* 3. *p.* 269. *Spreng. Syst. Veget. v.* 3. *p.* 766. *Humb. et Bonpl. Nov. Gen. et Sp. v.* 1. *p.* 63.
POTHOS grandifolia. *Jacq. Coll. v.* 4. *p.* 121. *Ic. Rar. v.* 3. *t.* 610.
DRACONTIUM cordatum. *Aubl. Guian. v.* 2. *p.* 837.
DRACONTIUM amplis foliis, &c. *Plum. Am. p.* 48. *t.* 51. *f.* 4. *et t.* 63.
ARUM acaule, &c. *Plum. Pl. Am. ed. Burm. v.* 1. *p.* 25. *t.* 36.

DESCR. Parasitic on the trunks of the trees. *Root* large, somewhat tuberous, jointed and knotted, the articulations marked with rings, which are the scars of former leaves, greenish brown, throwing out many short, thick, fleshy, simple fibres, which are not confined to the body of the root, but spring up among the leaves: and none of them, when the plant is in a state of cultivation, have any attachment to the soil. *Leaves* all radical, from a foot to a foot and a half, or even two feet in length, cordate, approaching to ovate, coriaceous, somewhat waved, dark green above, paler beneath, nerved, with three or five nerves springing from the base, the rest branching off from it; the lobes forming the base of the leaf are rounded, and spreading, so as to leave a broad sinus between them. *Petioles* one to two feet long, subcylindrical, grooved on the upper side, sheathing at the base; and, while young, furnished with a large green oblongo-lanceolate *bractea,* which soon withers and falls away. *Scape,* about as long as the petiole, cylindrical, terminated by a large *spadix,* a foot, or nearly so in length! and as thick as a finger, covered on all sides with densely-placed flowers, and having a reflexed lanceolate *spatha* shorter than itself at the base. Each *flower* is composed of four scales, is concave, flat and purple at the top, which gives the whole spadix a purple colour. Each *scale* contains a single stamen, which stamens are protruded at different times in the same flower, just above the scale: *Filament* flat, white: *Anther* of two cells, orange-coloured, its back presented to the pistil. *Pistil: Germen* obovate, its sides tetragonal, greenish, brown at the very top, where is indicated the scarcely visible sessile *stigma.* The *fruit* has a very remarkable appearance. By the enlargement of the germen from the size of a hemp-seed or less to that of a large pea, and the protrusion of the berries, the spadix is vastly increased in size, so as to be nearly three inches in diameter. Each berry is deep purple, obovate, when protruded, suspended for a time by the stamens, whose base is attached to their base, two-celled, each cell bearing one obovate, compressed, slightly tuberculated seed, emarginate at the top, and there having a small apiculus.

A plant of easy cultivation in the stove, being a native of the trunks of trees in the West India Islands, and of the warmer parts of South America, flowering with us during a greater part of the year. The fruit I believe to be of very rare occurrence. A noble specimen has been communicated to me, from the Liverpool Botanic Garden, by the Messrs. Shepherds, of which a portion is introduced into the accompanying plate, of the natural size; the figure of the entire plant, being, of necessity greatly reduced.

Fig. A. Plant reduced to one quarter of its natural size. 1. Flower. 2. Scale of the Perianth, with a young Stamen. 3. Fully-formed Stamen. 4. Pistil. 5. Portion of the Fruit, *natural size.* 6. Berry. 7. Section of ditto. 7. Section of a Berry. 8. Seed.

2802.

W. J. H. del.

Pub. by S. Curtis, Walworth, Feb. 1. 1828.

Swan Sc.

Bæckia frutescens. Shrubby Chinese Bæckia.

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Class and Order.

Icosandria Monogynia.

(Nat. Ord.—Myrtaceæ.)

Generic Character.

Germen inferum, turbinatum, lobis calycinis 5 persistentibus coronatum. *Pet.* 5, unguiculata. *Caps.* 3—5-locularis, polysperma. *Stam.* 5, 8, 10—15. (Folia opposita.)

Specific Character and Synonyms.

Bæckia *frutescens;* glabra, foliis oppositis remotis patentibus lineari-acerosis brevissime petiolatis, floribus brevi-pedicellatis, axillaribus solitariis, staminibus 10, capsulis trilocularibus.

Bæckia frutescens. *Linn. Suppl. p.* 514. *Smith in Linn. Trans. v.* 3. *p.* 260. *Willd. Sp. Pl. v.* 2. *p.* 434. *Pers. Syn. Pl. v.* 1. *p.* 234. *Spreng. Syst. Veget. v.* 2. *p.* 220.

Bæckia Chinensis. *Gærtn. de Fruct. v.* 1. *p.* 157. *t.* 31.

Bæckia. *Osb. It. t.* 1.

Descr. A small twiggy *shrub,* with brown bark, having very much the habit of a Diosma, frequently branched: the younger branches dotted with glands, as, indeed, is the whole plant. *Leaves* linear-acerose, sharp, tapering into a very short footstalk, having an obscure midrib, opposite. *Flowers* small, solitary, axillary, each upon a stalk about as long as the flower. *Calyx* of five membranous, pale, almost white, roundish lobes. *Corolla* of five spreading, roundish, very shortly clawed, white, waved *petals.* *Stamens* ten, inserted at the base of the calyx, between the petals, in pairs. *Germen* rotundato-pyriform, three-celled, each cell having a fleshy receptacle in the inner angle, and many seeds attached to it. *Styles* short: *stigma* capitate.

Sir James Smith, in the Memoir above referred to, in the Transactions of the Linnean Society, has rightly referred this Genus to the Order of Myrti. It has all the character of it: the leaves and stem and calyx, and even the outside of the petals abound in glandular dots, which in this, and probably all the other species yield a fragrant and aromatic scent.

Bæckia *frutescens* is the only species which we are acquainted with that inhabits China. It was discovered by Osbeck during his journey, and is the species upon which the Genus was founded. Nevertheless, I do not find eight, but constantly ten stamens. Perhaps the number of the divisions of the floral coverings may vary to four, and then we might expect eight stamens. The New Holland Bæckia *virgata*, as I have observed at p. 2694, of the former series of this work, has fifteen stamens.

Sent to the Glasgow Botanic Garden, together with a great number of other Botanical rarities from China, in 1827, by Dr. Livingstone. It is kept in the greenhouse, and produces its little delicate and snow-white flowers in the month of December.

Fig. 1. Flower. 2. Upper part of the Germen and Calyx. 3. Lower part of the Germen, to shew the Cells and Seeds. 4. Leaf.—All more or less *magnified*.

W. J. H. del.

Pub. by S. Curtis Walworth. Feb. 1 1828.

Swan sc.

BANKSIA MARCESCENS. MARCESCENT BANKSIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Cal. quadripartitus (raro quadrifidus). *Stamina* apicibus concavis laciniarum immersa. *Squamulæ* hypogynæ 4. *Ovarium* biloculare, loculis monospermis. *Folliculus* bilocularis, ligneus: *dissepimento* libero, bifido. *Amentum* flosculorum paribus tribracteatis. *Br.*

Specific Character and Synonyms.

BANKSIA *marcescens;* foliis cuneiformibus planis sparsis truncatis extra medium dentato-serratis: basi acutiuscula, ramis tomentosis, calycibus persistentibus folliculisque glabris. *Br.*

BANKSIA marcescens. *Br. in. Linn. Trans. v.* 10. *p.* 208. *Br. Prodr. Fl. Nov. Holl. p.* 395. *Sweet Fl. Austr. t.* 14.

BANKSIA præmorsa. *Andr. Repos. t.* 258.

BANKSIA aspleniifolia. *Knight et Salisb. Prot.* 113. *(excl. Syn. Salisburii Prod. (Br.)*

DESCR. A *shrub* from four to six feet high in our collections, much branched, the ultimate and younger branches downy. *Leaves* scattered, two to three inches long, erecto-patent, rigid, oblong, cuneate at the base, petiolate; *petiole* half an inch long; truncate at the extremity, the upper half deeply dentato-serrate, the lower half entire; the upper side deep green, the under white, with numerous green, minute reticulations: the midrib is prominent on the underside,

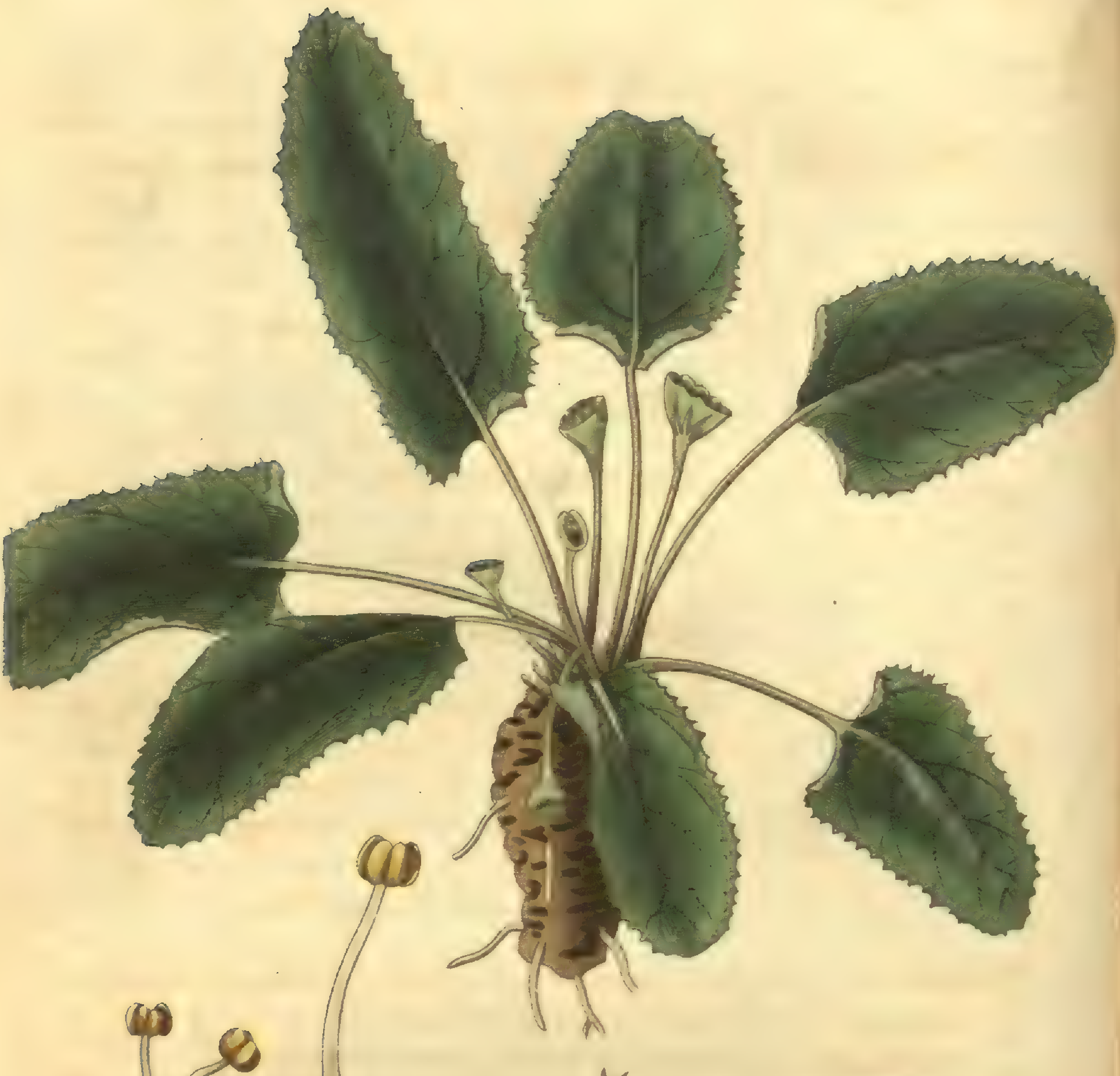
side, and in the younger leaves only, downy. *Amentum* terminal, large, cylindrical, of exceedingly numerous flowers, placed in pairs, each pair subtended by three closely-placed bractea, two inner and one outer one, clothed with long, silky, fulvous hairs, the middle one having a conical, naked point. *Perianth* or *Calyx* glabrous, greenish yellow, with the tube slender, filiform, the upper half separating into four segments, spathulate and concave at the extremity, and, in the hollow, bearing, each, a solitary *anther*. *Style* scarcely longer than the perianth, filiform, yellow. *Stigma* simple.

The seeds of this fine species of BANKSIA were received from Mr. FRASER, and, according to Mr. BROWN, it is an inhabitant of Lewin's Land, near the shore, in the Southern part of New Holland. Introduced into England by Mr. MENZIES, its discoverer, in 1794. I have no opportunity of comparing the plant with the figure quoted by Mr. BROWN, in ANDREWS's Repository, nor am I quite sure of its being the true B. *marcescens*. The leaves are not decidedly cuneate, and they are reticulated with white, downy areolæ. In some respects it approaches the B. *oblongifolia*, but that is described by Mr. BROWN as having sericeous calyces.

The B. *marcescens* flowers in the greenhouse in the month of April, and our drawing was made from the Glasgow Botanic Garden.

Fig. 1. Bracteæ with two Flowers.—*Magnified.*

2804.



W. J. H. del.

Pub. by S. Curtis, Walworth, Feb. 1.1828.

Swan Sc.

DORSTENIA TUBICINA. PEZIZA-FLOWERED DORSTENIA.

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Class and Order.

MONŒCIA DIANDRIA.

(Nat. Ord.—URTICEÆ.)

Generic Character.

Receptaculum carnosum, dilatatum, patens, superne papillosum vel squamosum: papillis vel squamis intus florigeris. *Cal.* 0. *Cor.* 0. *Stam.* 2. Pistillum receptaculo immersum. *Stylus* bifidus lateralis. *Pericarpia* monosperma.

Specific Character and Synonyms.

DORSTENIA *tubicina;* læviter pubescens, foliis cordato-oblongis denticulatis, scapis radicalibus, receptaculis poculiformibus margine squamoso-crenatis.

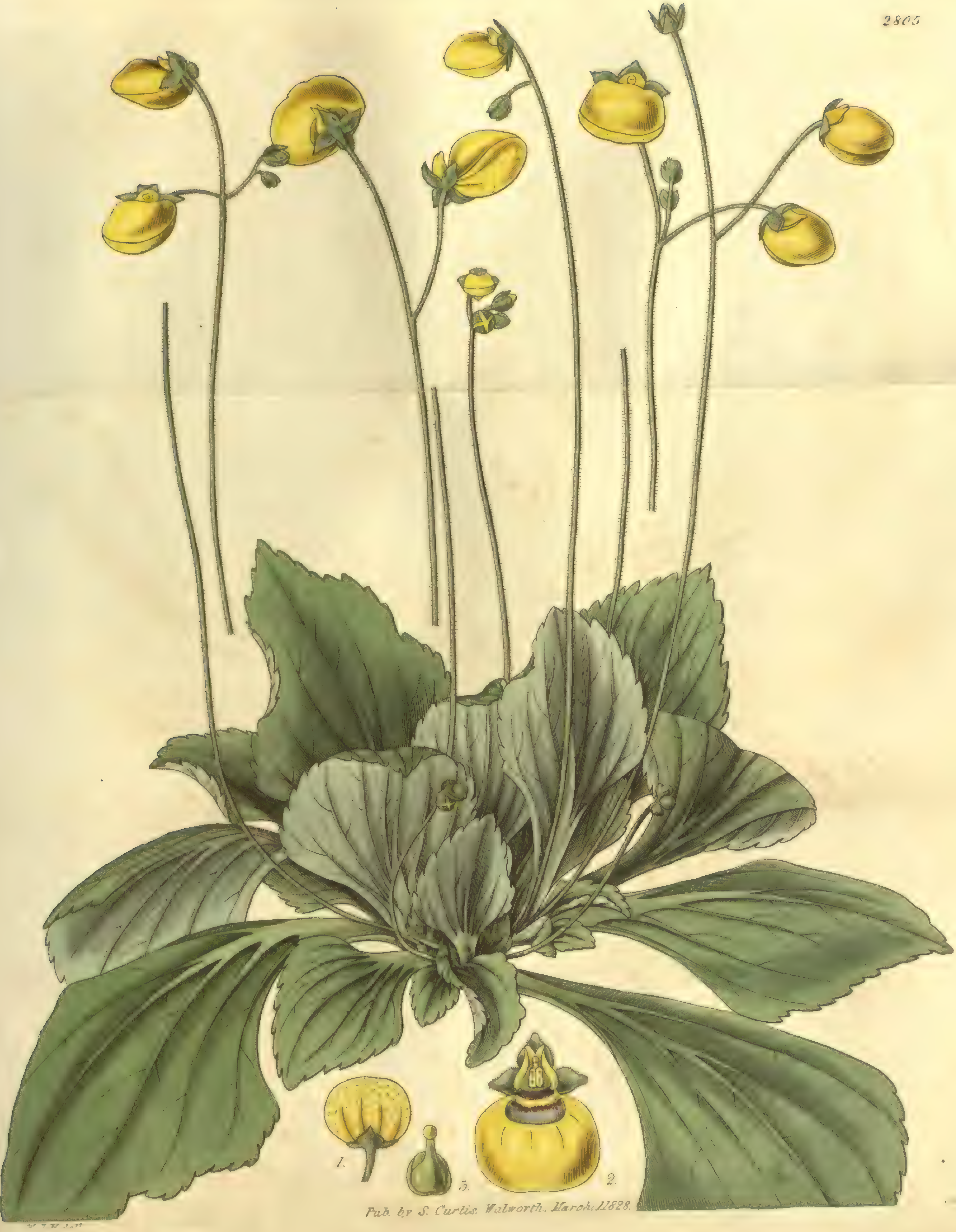
DORSTENIA tubicina. *Ruiz et Pavon Fl. Per. v.* 1. *p.* 65. *t.* 202. *f.* 6. *Pers. Syn. Pl. v.* 2. *p.* 557. *Spreng. Syst. Veget. v.* 3. *p.* 777.

DESCR. *Root* large, in proportion to the size of the plant, woody, subfusiform, descending, truncated or præmorse at the extremity, having a few simple, or branching fibres, powerfully aromatic. From the summit of the root arise many green, fleshy, small scales, among which are inserted the leaves and scapes. *Leaves* (as indeed is the whole plant) slightly pubescent, cordato-oblong, denticulate at the margin, reticulato-venose, petiolated, *petiole* about as long as the leaf. *Scapes* about equal in length with the *petioles,* terminated by a peziza, or wine glass-shaped receptacle, whose margin is incurved and crenated with granulated scales. *Flowers* numerous, of the male there are two *stamens* within a tubercle or swelling, which is purple, lacerated at the edge or mouth, and apparently imperfectly two lipped. *Filaments* much protruded, white, the *base,* or that part within the *tubercle,* much dilated. *Anthers* purplish, two lobed. *Pistils: Germen* entirely immersed in the fleshy substance of the receptacle, ovate, having a lateral *style* which is protruded through a perforation in a tubercle on the surface of the receptacle, its upper part purple. *Stigmas* bifid, purple.

This rare and curious species of DORSTENIA seems to have been hitherto only known, by the figure and description of RUIZ and PAVON, as of Peruvian origin. It is now ascertained to be a native of Trinidad, whence, by the favor of his Excellency, Sir RALPH WOODFORD, plants were sent to the Glasgow Botanic Garden, where they flowered in August, 1817. The plants differ in nothing from the figure of RUIZ and PAVON, except in being smaller; which is probably owing to their not yet having acquired their full vigour. The receptacle almost exactly resembles in shape some of the larger stipitate species of Peziza; and, in one instance, I found it thin, foliaceous, and veined, as if, being abortive, it was about to change into an actual leaf.

The fragrance of the root, has induced the inhabitants of Peru, to employ it in the room of DORSTENIA *Contrayerva*.

Fig. 1. Section of a Receptacle. 2. Male Flower, consisting of two Stamens within their Tubercle. 3. Single Stamen. 4. Female Flower within the receptacle.—More or less *magnified*.



Pub. by S. Curtis. Walworth. March 1. 1828.

CALCEOLARIA PLANTAGINEA. PLAINTAIN-LEAVED SLIPPER-WORT.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata: labium inferius calceiforme, inflatum. *Caps.* semibivalvis: valvulis bifidis.

Specific Character and Synonyms.

CALCEOLARIA *plantaginea;* acaulis pubescens, foliis rhombeis serratis nervosis, scapis subumbellato paniculatis, corolla labio inferiore hemisphærico superiore arcte appresso ovato acuminato bifido.

CALCEOLARIA plantaginea. *Smith Plant. Ic. t. 2. Vahl Enum. v. 1. p. 172. (excl. Syn. JOVELL. scapiflora. R. et P.) Spreng. Syst. Veget. v. 1. p. 43.*

CALCEOLARIA biflora. *Lam. Encycl. v. 1. p. 556.*

DESCR. From the summit of the root spring several tufts of *leaves*, but almost wholly destitute of *stem;* the largest of them four to five inches long (including the petiole), and lying on the ground, the smaller ones more erect, all of them rhomboid (in the wild specimens indeed, sometimes flabelliform), the upper half only deeply serrated, the lower gradually tapering into a broad and flat petiole: the *midrib* sends out lateral and parallel strong *nerves*, which again give out smaller and more spreading ones; all of which are more prominent beneath: the upper-side dark green, scarcely pubescent; the under side paler, and, as well as the margin, distinctly downy, with hairs that are short, sometimes branched, sometimes jointed, and sometimes

times continuous. *Scapes* eight and ten inches to a foot high, pubescent, having the flowers in loose, umbellate panicles at the extremity, of from two to four, and sometimes, as in one of my wild specimens, of eight flowers; the peduncles ternate. *Calyx* 4-partite, the segments ovato-cordate, spreading, externally glanduloso-pubescent and reddish. *Corolla* large, horizontally inclined, nearly hemispherical, yellow, the under and flat side beautifully dotted with red: upper lip very small, closed, ovate, bifid, externally minutely pubescent; at the base within are two transverse brown bands. *Stamens* meeting together in front of the style, short: *Anthers* oblong, yellow. *Germen* nearly sphærical, surrounded by a green gland, pubescent; *Style* rather short; *Stigma* capitate, yellow.

Seeds of this plant were sent by Mr. CRUICKSHANKS from near the Guardia, Chili, to the Glasgow Botanic Garden, in 1826, and they blossomed in the stove in August, 1827. Dried specimens were likewise sent by the same friend from the same country, as well as by Dr. GILLIES, who detected it growing plentifully on the sides of a small rivulet which arises a little below the Casa de la Combre, on descending from the top of the Cordillera, on the Chili side, flowering in March. This gentleman had named it in his MSS. C. *andicola*, an appellation I should willingly have retained had not Sir JAMES SMITH already figured and described the plant in his Icones Plantarum, under the name here adopted. That plant, however, as well as LAMARCK's C. *biflora*, which appears to be the same, are natives of the Straights of Magellan, and hence the species seems to have an extensive geographical range. VAHL considers the JOVELLANA *scapiflora* of RUIZ and PAVON to be synonymous with this, but that has a flower of a totally different structure.

Fig. 1. Flower seen from the underside, *natural size*. 2. Front view of a Flower, with the Lower Lip forced down. 3. Pistil.—*Magnified*.

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.H delt Pub. by S. Curtis. Walworth March 1. 1828. Swan Sc.

MAXILLARIA PALLIDIFLORA. PALE-FLOWERED MAXILLARIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium patens, resupinatum. *Labellum* cum processu unguiformi columnæ articulatum, trilobum. *Foliola* lateralia *exteriora* basibus cum processu columnæ connata. *Pollinia* 4, basibus connata, glandulosa (vel 2, pedicellata, pedicello basi glandulosa). Herbæ *parasiticæ, bulbosæ, Americæ meridionalis.* Racemi (vel scapi uniflori *radicales. Lindl.*

Specific Character.

MAXILLARIA *pallidiflora;* bulbo elongato-lineari lævi, folio lato-lanceolato trinervi striatoque, scapo paucifloro, bracteis linearibus, petalis erectis subæqualibus, labello oblongo obscure bituberculato margine undulato.

DESCR. *Plant,* growing in a tufted manner, having at the base a linear, or only swelling slightly in the middle, terete, smooth, dark-green bulb or stem, sheathed with scales: while in a young state, the scales entirely cover this bulb, and upon the top, the solitary, deciduous leaf is produced : afterwards the bulb increases greatly in size, and is only sheathed with brown, withered scales at the base. *Leaf* four to six inches long, broadly lanceolate, rather acuminate, with five principal nerves, and many rather obscure striæ, subcoriaceous. *Scape* scarcely longer than the bulbs, and proceeding from their base, slender, whitish,

having several linear, subulate, pale, membranaceous bracteæ, similar to those which accompany the flowers, which are few, at the extremity of the scape, drooping. *Perianth* of five deep divisions or *petals*, very pale yellowish green, each lanceolate, rather obtuse, united at the base below into an obtuse, brown, spur-like process. *Lip* about equal in length with the petals, almost white, oblong, having two obscure tubercles at the base, the margin thin, waved, the extremity a little recurved. *Column* white. *Anther-case* operculiform, hemisphærical. *Pollen Masses* four, two small and two large, yellow, waxy, attached to a whitish gland.

Received at the Glasgow Botanic Garden from the island of St. Vincent, by favour of the Rev. LANSDOWN GUILDING, and cultivated in the same way as other parasitical ORCHIDEÆ in the stove, where it flowers in September. It has much affinity with the DENDROBIUM *squalens* of Mr. LINDLEY, in Bot. Reg. t. 732; but, besides the different form of the bulbs and colour of the flowers, that plant is said to have the pollen masses two in number, with a furrow on one side, whence Mr. LINDLEY has subsequently constituted of it the Genus XYLOBIUM (Bot. Reg. t. 897.)

Fig. 1. Front view of a Flower. 2, and 3. Front and back view of the Pollen Masses.—*Magnified.*

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W. J. H. delt.

Pub by S. Curtis, Walworth March 1. 1828.

GREVILLEA ACANTHIFOLIA. ACANTHUS-LEAVED GREVILLEA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Cal. irregularis. *Glandula* hypogyna, dimidiata. *Folliculus* coriaceus, 1-locularis, dispermus. *Semina* marginata. *Spr.*

Specific Character and Synonyms.

GREVILLEA *acanthifolia;* foliis pinnatis glabris, lobis suboppositis trifidis, racemis erectis, perianthiis lanuginosis, stylis glabris. *Cunn.*

GREVILLEA acanthifolia. *Cunningham in Field's N. S. Wales, p. 328. cum Ic. Lodd. Bot. Cab. t.* 1153.

DESCR. *Shrub* erect; *stem* round, *bark* brown, branches scattered, angular, green. *Leaves* scattered, pinnatifid, rigid, smooth on both sides, revolute in their edges, dark green above, paler below; *pinnæ* wedge-shaped at the base, trifid, segments tipped with a spine; middle-rib of the leaf, pinnæ and pinnulæ prominent below. *Racemes* terminal upon short branches, opposite to the leaves, spreading. *Flowers* all turned upwards, refracted, sessile. *Calyx* lanato-sericeous on the outside, purple within and smooth, segments at length distinct, deciduous. *Anthers* dark red-orange coloured, after shedding the pollen yellow, bilocular, sessile. *Germen* stipitate, silky, lateral, gland on the anterior side of the base of the footstalk, lobular, semicircular, secreting abundance of honey: *Style* curved, quite smooth, and shining pink: *Stigma* flattened, set straight on the top of the style, green; on bursting from the calyx it carries on

its centre a round and prominent mass of the dark-coloured pollen.

The specimen above described has flowered in April, and will continue to produce flowers during May, at Comley Bank, near Edinburgh, in the greenhouse of Mr. Cunningham, whose very extensive collection has within these few months been distinguished by exhibiting in flower, for the first time in this country, several of the greatest ornaments of our gardens. Among them may be reckoned Doryanthes *excelsa,* Rhododendron *arboreum,* and the subject of the present article. This was procured by Mr. Cunningham from Mr. Lee of Hammersmith, by whom it was raised in 1824, from New Holland seeds. Graham MSS.

This interesting species of Grevillea was discovered by the King's collector, Mr. Allan Cunningham, on peaty bogs on the Blue Mountains, and banks of Cox's river, during Mr. Oxley's first expedition into the interior in 1817, and introduced to this country through the medium of the Royal Gardens at Kew.

Fig. 1. Flower.—*Magnified.*

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W. J. H. delᵗ

Pub by S Curtis Walworth March 1. 1828

LOTUS MICROPHYLLUS. SMALL-LEAVED LOTUS.

Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. tubulosus, 5-fidus, *alæ* vexillum subæquantes; carina rostrata. *Legumen* cylindraceum vel compressum apterum; *stylus* rectus; *stigma* oculo nudo subulatum (?).

Specific Character.

LOTUS *microphyllus*; subhirsutus, caule procumbente filiformi, foliolis ellipticis subtus præcipue hirsutis, stipulis subulatis, capitulis paucifloris, leguminibus brevibus cylindraceis hirsutis trispermis, seminibus punctatis.

DESCR. *Plant,* apparently annual, throwing out from one root several spreading, decumbent, branching, slender *stems,* which are slightly hairy and reddish, eight to ten inches long. *Leaves* scattered, small, ternate, petiolate; *leaflets* elliptical, carinate, slightly hairy above, much more so beneath. *Stipules* small, subulate. *Flowers* five to six, collected into a small *head,* upon long, axillary *peduncles,* rose-coloured. *Calyx* greenish-purple, pubescent, with five, nearly equal, subulate *teeth.* *Vexillum* broad: *alæ* obliquely twisted: *carina* scarcely rostrate, having on each side a small projection or tubercle, in which a portion of the alæ is, as it were, held. *Stamens* diadelphous; nine united and one free. *Pistil* rather shorter than the stamens. *Germen* linear, pubescent; *Style* glabrous; *Stigma* capitate and glandular. *Legumes* short, cylindrical, terminated by the straight, acute *style;* three-seeded, the *seeds* lodged in as many cells, roundish, dotted. *Embryo* compressed: *Cotyledons* plano-convex; *radicle* curved.

A graceful but small plant, and as far as my investigations have enabled me to determine, quite a new species. Professor HORNEMANN sent the seeds, which were gathered by his Danish Majesty's collector at the Cape of Good Hope. We have cultivated it in the greenhouse, where it flowers in July.

Fig. 1. Flower seen from the underside. 2. Side view of a Flower. 3. The Carina. 4. Stamens and Pistil. 5. Pistil. 6. Fructiferous Peduncle, *natural size.*—7. Single Legume. 8. The same laid open. 9. Seed. 10. Embryo. 11. Leaf, with its Stipules.—All but fig. 6. more or less *magnified.*

W.J.H del.

Pub by S. Curtis, Walworth, March. 1 1828.

PENÆA IMBRICATA. IMBRICATED PENÆA.

****

Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—EPACRIDEÆ.)

Generic Character.

Cal. 2-phyllus. *Cor.* campanulata. *Stylus* tetragonus. *Caps.* tetragona, 4-locularis, loculis dispermis.

Specific Character and Synonym.

PENÆA *imbricata;* foliis rhombeo-ovatis acutis integerrimis quadrifariam imbricatis vel patulis, ramis tetragonis decussatis, floribus terminalibus, bracteis paucis nudis coloratis sagittatis folio minoribus, laciniis corollæ obtusis medio plicatis. *Graham.*

PENÆA imbricata. *Graham MSS.*

DESCR. *Shrub* erect, bark brown and cracked, *branches* numerous, decussating, ascending, four-sided. *Leaves* sessile, rhomboid-ovate, coriaceous, somewhat pointed, decussating, generally spreading on the branches, imbricated towards the flowers, naked, on the back middle rib distinct with a few obscure lateral veins. *Bracteæ* few, without alæ, coloured. *Calyx* diphyllous, segments linear, coloured, alternating with the hastate bracteæ, nearly on the same plane. *Corolla* rose coloured, tubular, tube furrowed, inflated at its base, tapering somewhat to the throat, less than double the length of the calyx; *limb* four-parted, segments rounded, with a slight point in the centre, folded back in the middle, about half the length of the tube, and slightly contorted. *Stamens* four, alternating with the segments of the corolla, and attached to the throat: *filaments* subulate, coloured: *anthers* large, cordate, as long as the filaments: *pollen* yellow. *Germen* four-lobed, four celled, pointed: *style* terminal, four sided: *stigma* capitate, four cornered.

Raised from Cape of Good Hope seeds, kindly communicated to the Royal Botanic Garden of Edinburgh by W. T. Aiton, Esq. Graham MSS.

Fig. 1. Flower. 2. Flower cut open to shew the Stamens and the Pistil. 3. and 4. Back and Front view of the Anther. 5. Section of the Germen.—*Magnified.*

W. J. H. del.

Pub. by S. Curtis, Walworth March. 1.1828.

Swan

CORCHORUS OLITORIUS. BRISTLY-LEAVED CORCHORUS, OR JEW'S MALLOW.

****

Class and Order.

POLYANDRIA MONOGYNIA.

(Nat. Ord.—TILIACEÆ.)

Generic Character.

Cal. pentaphyllus, deciduus. *Pet.* 5. *Stylus* subnullus. *Stigmata* 2—5. *Capsula* subulæformis aut rotunda, 2—5-valvis, 2—5-locularis, valvis medio septiferis. *Semina* biserialia. *D. C.*

Specific Character and Synonyms.

CORCHORUS *olitorius;* capsulis oblongis subteretibus glabris 5-locularibus, foliis ovato-oblongis serratis, serraturis infimis longe setaceis. *D. C.*

CORCHORUS olitorius. *Linn. Sp. Pl. p.* 746. *Lam. Ill. t.* 478. *f.* 1. *Willd. Sp. Pl. v.* 2. *p.* 1214. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 313. *De Cand. Syst. Veget. v.* 1. *p.* 504. *Spreng. Syst. Veget. v.* 3. *p.* 583.

" CORCHORUS Plinii. *Bauh. Pin.* 317. *Lob. Ic.* 505."

" MELOCHIA. *Alp. Œgypt.* 45. *t.* 30."

DESCR. An annual species, with rounded, branching *stems,* which are quite glabrous, as, indeed, is the whole plant. *Leaves* two to three inches in length, oblong, approaching to ovate, frequently quite ovate, acute, or sometimes even acuminate, serrated, thin, membranaceous, with three principal nerves at the base, and several oblique minor ones and reticulations between: the two lower serratures run out into long bristles. *Petiole* often as long as the leaf. *Stipules* subulato-setaceous. *Flowers* solitary, on short peduncles, which spring from opposite the leaves, and which have, in their middle, three subulate *bracteæ*. *Calyx* of five pale green, concave, oblong, acuminate, spreading leaves. *Petals* obovato-oblong, yellow, waved. These flowers are succeeded by erect, pod-shaped, somewhat angular, acuminated *capsules*, varying in length from one to three inches, five-celled, five-valved. Each valve has two rows of ovate brown *seeds*.

This plant is said to grow spontaneously in Asia, Africa, and America; and was introduced into our gardens, according to PARKINSON, in 1640. Seeds were sent to the Glasgow Botanic Garden by CHARLES TELFAIR, Esq. from the Mauritius, and from them the plant was raised from which our figure and description were taken. It possesses little beauty to recommend its continued cultivation; but it is a plant with which we may wish to have some acquaintance, since, as its name implies it has been extensively cultivated in Egypt, Syria, and other parts of the East, as a *pot herb*. In Egypt, FORSKAL tells us, it is abundantly planted in gardens, and is called *Melòkych* by the Arabs. OLIVIER says the Egyptians eat the leaves during the whole summer in ragouts, or simply boiled, drained, and seasoned with olive oil; and, in India, it is equally employed as an article of food. It is besides said to possess slight medicinal qualities; to be emollient, a sweetener, and a pectoral. It flowers in the stove in July.

Fig. 1. Flower. 2. Stamen and Pistil. 3. Single Stamen. 4. Pistil. 5. Capsule. 6. The same bursting open. 7. Seed.—*Magnified.*

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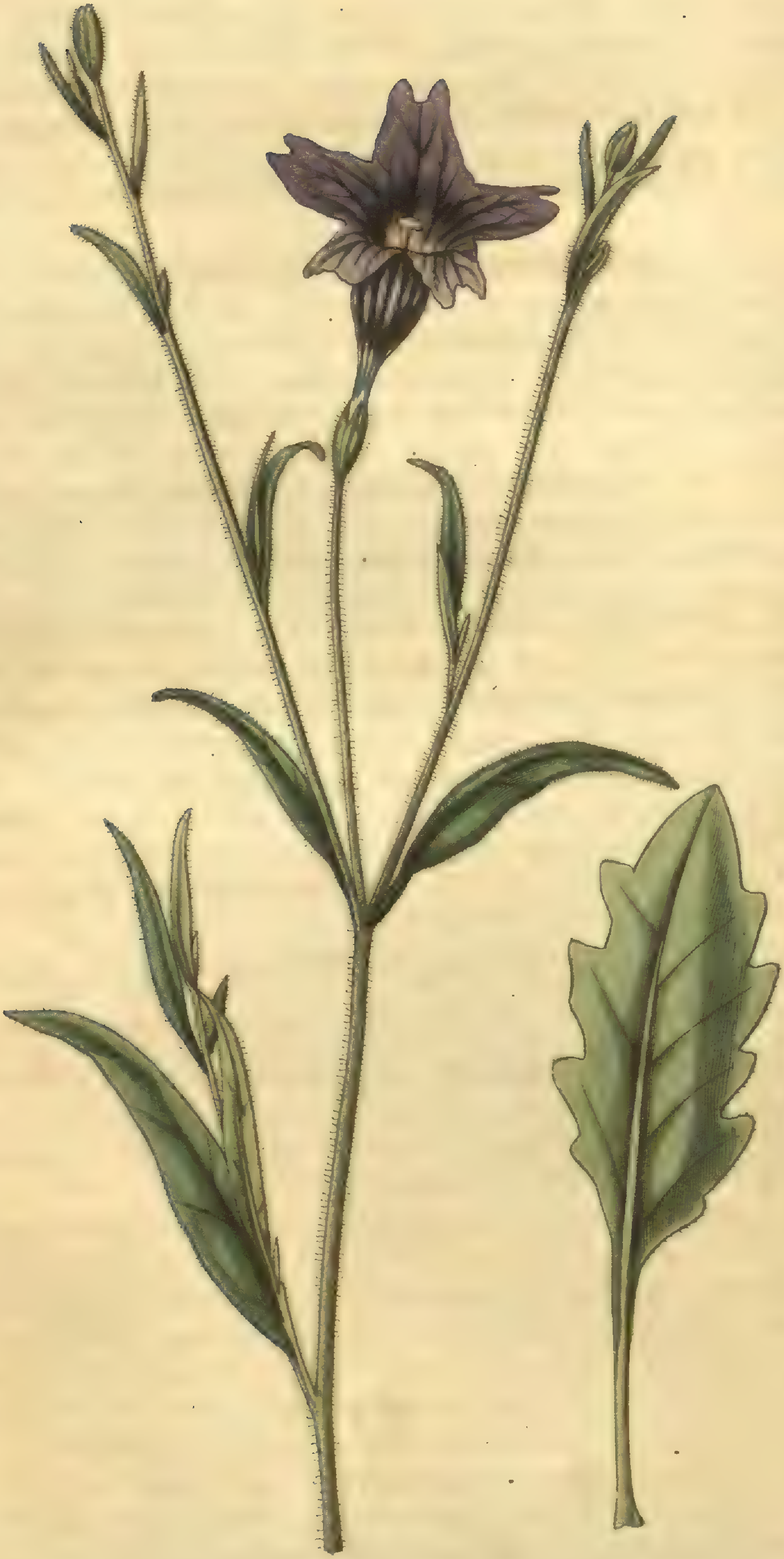

Dr Grevill delt.   Pub. by S. Curtis, Walworth March 1 1828.   Swan Sc.

SALPIGLOSSIS ATRO-PURPUREA. DEEP PURPLE-FLOWERED SALPIGLOSSIS.

****

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—BIGNONIACEÆ ?—SOLANEÆ. *Sweet.*)

Generic Character.

Cal. 5-partitus, subinæqualis. *Cor.* infundibuliformis, limbo 5-lobo. *Filam.* quintum sterile. *Stylus* apice dilatatus. *Capsula* 2-locularis, dissepimento valvis parallelo.

Specific Character and Synonym.

SALPIGLOSSIS *atro-purpurea;* foliis lanceolato-ellipticis, convexis, sinuatis, superioribus integerrimis linearibus; stylo edentulo. *Graham.*

SALPIGLOSSIS atro-purpurea. *Graham MSS.*

DESCR. *Stem* herbaceous, procumbent for a little way at the base, afterwards erect, two feet high, somewhat flexuose, branching. *Branches* ascending. *Leaves* scattered, varying considerably in shape, the larger (three to four inches long, one and a quarter to an inch and a half broad) lanceolato-elliptical, often nearly elliptical or ovato-elliptical, flaccid, and folded back from the middle rib, sinuated, the segments generally blunt and entire, sometimes sharp, and occasionally toothed on their sides, decurrent along the petiole, which is nearly equal in length to the leaf; upper leaves lanceolato-linear and entire, and on the flowering branches passing into linear *bracteæ.* *Flowers* on loose, terminal panicles. *Pedicels* opposite to, or alternate with the bracteæ, stout, slightly curved upwards, as well as the stem and branches cylindrical. *Calyx* persisting, oblongo-ovate, five-cleft, segments acute, five-angled, angles deep green, the intervening spaces paler and rugose. *Corolla* large, in-

serted into the receptacle, veined, rich deep purple within, more lurid on the outside, funnel-shaped, tube cylindrical, twice the length of the calyx; throat much inflated, a little more on its lower side, and half as long again as the tube; limb spreading, five-cleft, segments obcordate, the largest above, the two smallest below. *Stamens* four, didynamous, with the slender rudiment of a fourth between the two longer, inserted into the orifice of the tube of the corolla; *filaments* slightly flattened, purple towards the anthers, paler below; *anthers* very large, yellow, ovate, bilobular, bifid at the base, the outer lobe always the largest; *pollen* yellow. *Germen* conical, channelled on both sides, bilocular, green; *Style* single, terminal, slender below, transversely flattened and much expanded above, without lateral teeth, pale green, longer than the filament, included; *Stigma* truncated, cleft along its extremity, green.

The stem, branches, leaves, pedicels, and calyx are covered with a soft, glandular, glutinous pubescence, which appears more sparingly on the outside of the corolla, and on the filaments. When fading, the upper part of the corolla is nearly deliquescent, the decay beginning in round transparent spots, the lower part is somewhat marcescent.

It is impossible to suppose this the same species with the S. *straminea* of HOOKER, Exot. Flor. t. 229, yet, as the leaves probably vary, it may not be easy to find good specific characters. It seems a larger, more robust plant, the branches and pedicels being considerably stouter and more straight, the stamens inserted higher in the tube. It first flowered in the garden of Mr. NEILL, Cannon Mills, Edinburgh, from seeds, sent by Dr. GILLIES. Both the species have flowered freely in the stove of the Royal Botanic Garden, Edinburgh, in September, and will continue to do so during October, the seeds having been sent from the Cordillera by Mr. CRUICKSHANKS, in 1826. Both differ from the SALPIGLOSSIS figured by RUIZ and PAVON, Prodr. Fl. Peruv. et Chil. t. 19, in the segments of the corolla being larger, more spreading, and obcordate rather than emarginate, and in the absence of teeth on the style. Our specimens of S. *straminea* have the tube of the corolla as long as in the S. *atropurpurea*, which is considerably longer than in Dr. HOOKER's figure, and in this respect both agree with the figure of RUIZ and PAVON. —GRAHAM.

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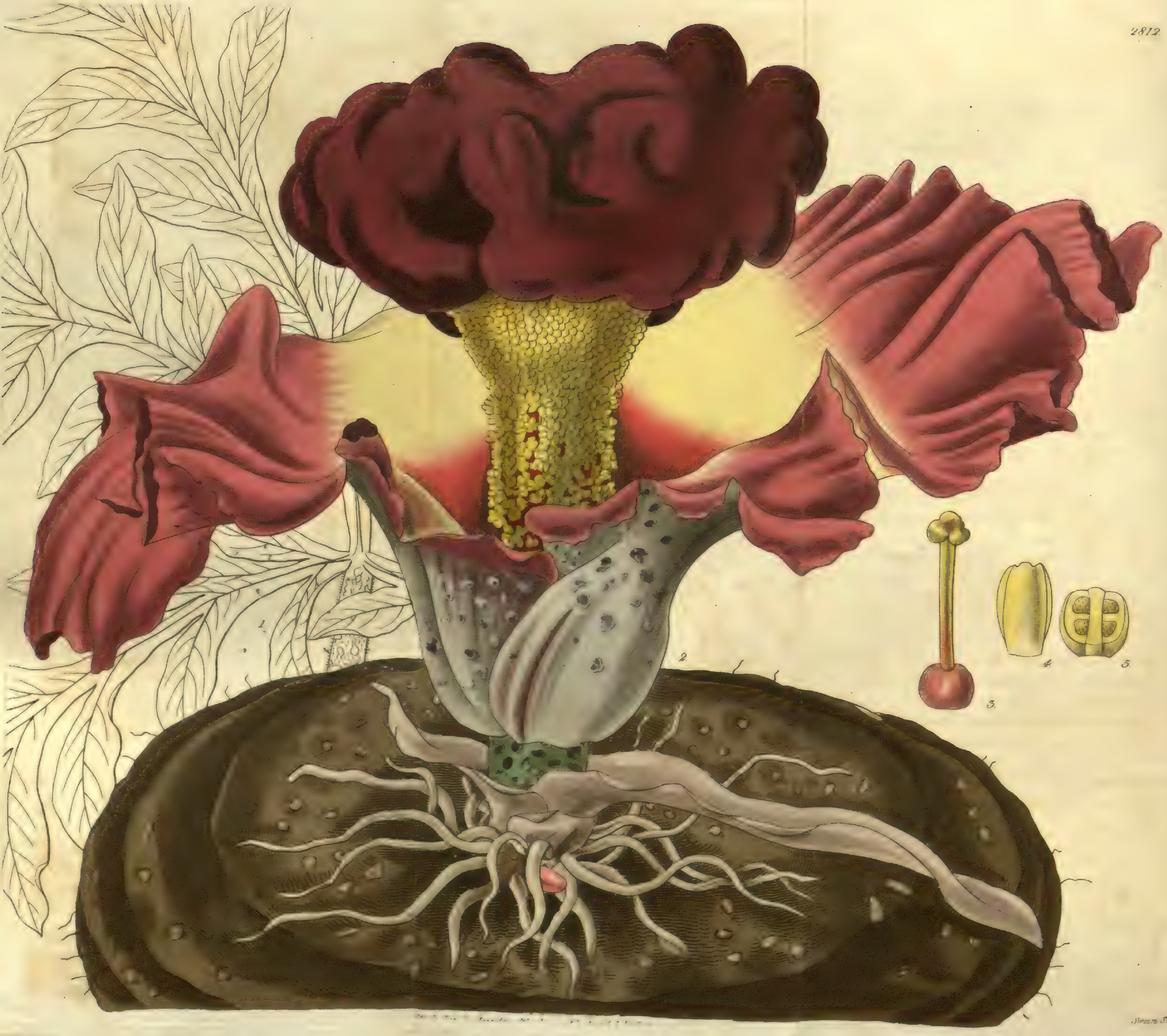

Swan Sc.

ARUM CAMPANULATUM. CAMPANULATE ARUM.

****

Class and Order.

MONŒCIA MONANDRIA.

(Nat. Ord.—AROIDEÆ.)

Generic Character.

Spatha monophylla, cucullata. *Spadix* supra nudus, inferne fæmineus, medio stamineus.

Specific Character and Synonyms.

ARUM *campanulatum;* foliis decomposito-pinnatifidis, spatha campanulata undulato-crispata spadicem capitato-clavatum æquante.

ARUM campanulatum. *Roxb. Hortus Bengh. p.* 66. *Ejusd. Ic. ined. Roxb. Pl. Corom. v.* 3. *t.* 272. *Spreng. Syst. Veget. v.* 3. *p.* 770.

SCHENA. *Hort. Mal. v.* 11. *p.* 35. *t.* 18. *et* MULENSCHENA. *t.* 19.

MULENSCHENA. *Hort. Mal. v.* 11. *p.* 37. *t.* 19.

TACCA Phallifera. *Herb. Amb. v.* 5. *p.* 326. *t.* 112. *et t.* 113. *f.* 2.

ARUM *Ceylanicum* polyphyllum caule aspero, &c. *Commel. Hort. v.* 1. *p.* 101. *t.* 53.

DESCR. *Root* a large, rounded, compressed *tuber*, marked with concentric lines and numerous scars; and producing a few small fibres. From the centre of this, generally, a single large leaf is produced, a foot and a half to two feet high. Its peduncle is cylindrical, greenish-brown, with pale spots, and hispid, or rather echinated, expanding above into three principal divisions or pinnæ; each is again bifid, and the segments are pinnatifid, being cut almost to the midrib into ovato-lanceolate laciniæ or leaflets, with many parallel veins. The *flower* appears at a different season from the leaf, and is very large and showy. From the top of the tuber arises a short, green, spotted *stem*, or *peduncle*, having numerous, succulent radicles thrown out from its very base, and two unequal, lanceolate, membranaceous sheaths or bracteas. This short *stem* bears a very large subcampanulate purplish *spathe*, of a somewhat coriaceous texture, much waved at the margin, greyish, spotted with white on the outside, within whitish towards the middle, and reddish-purple at the very base. *Spadix* ten inches to a foot high; its lower half (that part covered with pistils) cylindrical, above (where the stamens are placed) much dilated, and at the top expanding into a large, waved, deep-purple, granulated head. *Pistil: Germens* numerous, somewhat sphærical, purple: *Style* cylindrical, purple: *Stigma* capitate, waved, yellowish. *Anthers* sessile, very numerous, oblong, obtuse: each four-celled, opening with pores at the extremity.

The first I knew of this extraordinary plant was through the medium of my friend Dr. STRANG, who obligingly brought me from M. SPANOGHE, from Java, a noble specimen of it in spirits. About the same time, a living plant was sent from Madagascar by Mr. TELFAIR to ROBERT BARCLAY, Esq. at Bury Hill, in whose superb collection, and under the skilful management of his gardener, it soon produced its flowers: and, from a drawing kindly sent to me by that gentleman, aided by my specimens preserved in spirits, the accompanying figures were taken.

Although the plant had been long represented and described by RUMPHIUS, RHEEDE, and COMMELIN; yet no systematic botanist seems to have noticed it, until Dr. ROXBURGH introduced it into the Hortus Benghalensis, under the name which I have here retained. We are there told that its Sanskrit name is *Kunda*, and its Hindoostani *Muncha-kunda*: that it is not uncommon on the Continent of India, as well as in the Archipelago; and that in the Northern Circars it is cultivated and valued as the Potato is with us, and as the Yams in the West Indies. The roots often weigh from four to eight or more pounds each. COMMELIN received it from Ceylon, and cultivated it at Amsterdam, but never saw it produce its flower. RUMPHIUS seemed to consider the flower of this to belong to his real TACCA, v. 5. t. 113. f. 1. Both he and RHEEDE speak of the root being employed medicinally by the natives.

Fig. 1. Leaf about one quarter the natural size. 2. Flowering Plant ditto. 3. Pistil. 4. Anthers. 5. Section of ditto.—*Magnified.*

2813

W. J. H. del.

Pub. by S. Curtis. Walworth April 1.1828.

Swan sc.

PITCAIRNIA BRACTEATA. BRACTEATED PITCAIRNIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—BROMELIACEÆ.)

Generic Character.

Cal. semisuperus. *Petala* libera, irregularia, basi squamosa. *Stamina* basi perianthii inserta. *Stylus* filiformis. *Stigmata* linearia, convoluta. *Capsula.* *Semina* caudata. *Lindl.*

Specific Character and Synonyms.

PITCAIRNIA *bracteata;* foliis integerrimis basi spinosis subtus bracteis cauleque furfuraceis, bracteis longitudine calycis, petalis subæqualibus lanceolatis convolutis.

PITCAIRNIA bracteata, *α.* *Hort. Kew. ed.* 2. *v.* 2. *p.* 202. *(excl. var. β?).* *Sprengel Syst. Veget. v.* 2. *p.* 22. *(excl. Syn.* P. sulfureæ. *Andr.?)*

PITCAIRNIA latifolia. *Redouté Liliac. v.* 2. *t.* 73 *et* 74.

DESCR. From one and a half to two feet high. *Leaves* a foot or more long on the lower part of the cylindrical and furfuraceous stem, linear-lanceolate, coriaceous, obscurely striated, very acuminated, the margin entire, except at the sheathing base, where there are some strong brown teeth pointing upwards: the upper surface is a dark, shining green, quite glabrous, the underside clothed with a blueish-white furfuraceous substance. These leaves gradually become smaller upwards, and pass into the broadly lanceolate, concave, slightly furfuraceous, imbricated *bracteæ,* which are about equal in length to one half of the flower, reaching to the top of the calyx. *Peduncle* only to the

lower flowers, and there very short. *Calyx* half superior, of three, erect or slightly twisted, lanceolate, reddish leaflets. *Petals* three, curved, nearly regular, convolute, red; at the base of each furnished with a large, white, crenated scale. *Stamens* shorter than the petals: *filaments* white: *anthers* linear-oblong, yellow. *Pistil: Germen* half-inferior, the superior part three-lobed, tapering upwards into a filiform, white *style*. *Stigmas* three, shortly linear, twisted. *Capsule* tri-angular, or forming a double three-sided pyramid, the base incorporated with the fleshy base of the calyx; the upper part covered by the persistent, withered flowers, three-celled. *Seeds* numerous, scrobiform.

This is assuredly the same plant as REDOUTE's P. *latifolia*, which is the P. *bracteata, α,* of Hortus Kewensis. But I cannot agree with the author of that valuable work in considering the P. *sulfurea* of ANDREWS to belong to the same species. Independent of the colour of the flowers, they are much larger and the petals, as represented both in the Bot. Repository and in the Bot. Register, are very different in shape from those of our plant: nor do the bracteas appear to be so large in proportion to the flower.

The spike of flowers in our specimen is young: a spike of seed-vessels now before us is thrice the length of the flowering plant. Communicated by Messrs. SHEPHERDS, from the Liverpool Botanic Garden, in January, 1828; to which valuable establishment the seeds were sent in 1825, by Mr. ELLIOTT, Staff-Surgeon, from the island of St. Vincent. We have fine dried specimens from the same island, gathered by the Rev. L. GUILDING.

Fig. 1. Flower. 2. Petal. 3. Stamen. 4. Pistil. 5. Capsule. 6. Section of ditto. 7. Seed.—All more or less *magnified*.

W. J. H. del.

Pub. by S. Curtis Walworth Apr. 1 1828.

LYCOPERSICUM PERUVIANUM. LARGE-FLOWERED TOMATO.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SOLANEÆ.)

Generic Character.

Cal. 5—6-partitus. *Cor.* rotata, 5—6-loba. *Antheræ* conicæ, membrana apice elongata connatæ, intus longitudinaliter dehiscentes. *Bacca* bi-trilocularis. *Semina* villosa.

Specific Character and Synonyms.

LYCOPERSICUM *peruvianum;* caule subherbaceo tomentoso, foliis inæqualiter pinnatis tomentosis canescentibus stipulatis, foliolis incisis, pedunculis pedicellisque bracteatis.

LYCOPERSICUM peruvianum. *Miller's Gard. Dict. Dunal Hist. Solan. p.* 111. *Synops. p.* 3. *Roem. et Schult. v.* 4. *p.* 566. *Spreng. Syst. Veget. v.* 1. *p.* 677.

LYCOPERSICUM dentatum. *Dun. Synops. Sol. p.* 4. *(fide Spreng.)*

SOLANUM peruvianum. *Linn. Sp. Pl. p.* 265. *Jacq. Coll. v.* 2. *p.* 284. *Ic. Rar. v.* 2. *t.* 327. *Willd. Sp. Pl. v.* 1. *p.* 1034. *Ruiz et Pav. Fl. Peruv. v.* 2. *p.* 37.

LYCOPERSICUM Pimpinellæ Sanguisorbæ folio. *Feuill. Per. v.* 3. *p.* 37. *t.* 25.

DESCR. *Stem* one to two feet high, rounded, pubescenti-tomentose, branched, herbaceous, except, perhaps, at the very base. *Leaves* alternate, rather remote, pinnated with an odd one; *leaflets* from half an inch to an inch long, oval, or approaching to ovate, obtuse, unequal at the base, more or less incised at the margin, especially the terminal ones, slightly petiolate, more or less remote, with or without smaller ones between them, all of them pubescenti-tomentose, and often hoary. The pubescence is mixed with glands, which cause the plant to be somewhat clammy, and which yield a rather powerful odour. At the base of the petioles are small rounded stipules, one on each side. *Peduncle* lateral (not axillary), bearing four to six corymboso-racemose *flowers*, which are drooping. *Peduncles* and *pedicels* bracteated with bracteas resembling the stipules. *Calyx* not one third the size of the corolla, of five, lanceolate, spreading segments, two or four of the segments often cohering in pairs, the margin and back pubescenti-hirsute. *Corolla* large, rotate, deep yellow, the *segments* reflected, waved, and margined, acuminate. *Stamens* five, united into a firm tube, and terminating in a hollow, horn-like process: *anthers* opening by two longitudinal clefts inwards, the whole resembling the stamens of the plants of the Class SYNGENESIA, only that here the short filaments as well as the stamens firmly cohere. *Pistil* roundish, pubescent. *Style* longer than the stamens, filiform, hairy below, glabrous above; *Stigma* globose.

Raised in the Glasgow Botanic Garden from seeds sent by Mr. CRUICKSHANKS from Valparaiso. It produced its blossoms in the stove in November. RUIZ and PAVON tell us, that it is found in the provinces of Lima and Chancay, and FEUILLÉE observes, that it grows in the clefts of rocks on the shores of the sea. The fruit which we possess in the Herbarium is sphærical, orange-red, about the size of a pea, and pubescent. In the dialect of the country the plant is called *Tomatte cimaron,* or Wild Golden Apple. Indeed, Sir JAMES SMITH (see REES's Cyclop. article SOLANUM *Lycopersicum*) does not feel satisfied that it is distinct from the common *Love Apple,* or *Tomato*; but had he seen living specimens of the two, he would, I think, have felt satisfied of their being specifically different. ROEMER and SCHULTES quote with a mark of doubt JACQUIN's figure in the Icones Rariores, because LINNÆUS describes the leaves as being not interruptedly pinnate: but both kinds of leaves are often found on the same plant.

Fig. 1. Stamen. 2. Staminal Tube laid open. 3. Calyx and Pistil.—*Magnified*

W. J. H. del. Pub. by S. Curtis, Walworth, April 1, 1828. Swan sc.

GOMPHRENA GLOBOSA. ANNUAL GLOBE AMARANTH.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—AMARANTHACEÆ.)

Generic Character.

Perianthium 5-partitum. *Stamina* 5, connata in tubum subcylindraceum ovario longiorem, apicibus distinctis, cum v. absque dentibus interjectis. *Antheræ* uniloculares. *Stylus* 1. *Stigmata* 2. *Utriculus* monospermus, evalvis. *Br.*

Flores glomerati vel spicati. Flores tribracteati, bracteis coloratis, duobus interioribus majoribus.

Specific Character and Synonyms.

GOMPHRENA *globosa ;* pubescenti-pilosa, caule erecto, foliis oblongis basi attenuatis, capitulis terminalibus subglobosis diphyllis, bracteis duobus majoribus carina alata, perianthio lanato.

GOMPHRENA globosa. *Linn. Sp. Pl. p.* 326. *Willd. Sp. Pl. v.* 1. *p.* 1321. *Ait. Hort. Kew. ed.* 2. *v.* 2. *p.* 105. *Spreng. Syst. Veget. v.* 1. *p.* 822.

AMARANTHO affinis indiæ orientalis, floribus glomeratis, ocymoidis folio. *Comm. Hort. v.* 1. *p.* 85. *t.* 45.

WADAPU. *Hort. Malab. v.* 10. *p.* 73. *t.* 37.

FLOS globosus. *Rumph. Amb. v.* 5. *p.* 289. *t.* 100. *f.* 2.

DESCR. An annual *plant* with an upright stem, and terete, straggling branches, every-where pubescenti-hirsute. *Leaves* opposite, oblong, more or less acute, and tapering below into a footstalk: the floral-ones ovate, sessile, reflexed. *Heads* of *Flowers* at first sight somewhat resembling those of the common Trefoil, globose, purple, rarely white. *Bracteæ* three to each flower: the outer one small, roundish, acuminate, membranous, scariose, greenish, tipped with purple: two inner ones three or four times as large, resembling the calycine valves of a grass, and in like manner including the flower, purple, carinated, carina winged and serrated. *Perianth* of five, lanceolate, membranaceous, scarcely coloured segments, enveloped within and without almost to the point with a delicate woolly substance. *Tube* of the *stamens* rather longer than the perianth, cylindrical, membranous, reticulated, white, terminated by five bifid teeth, within which, between the notch, in each tooth, a sessile, linear, one-celled, yellow *anther* is inserted. *Pistil* shorter than the tube of the stamens, globose, tapering into a short *style,* which has two linear *stigmas*. *Capsule* or *Utricule* containing a single, reniform, brown, pedicellated, compressed *seed.*

Introduced into Britain from the East Indies so long ago as the year 1714, and extensively cultivated as a favourite ornamental plant in the gardens of the rich, and in the windows of the poor cottagers; yet so far neglected by the Botanist, that it has not been honoured with a figure in any British publication that has come within my observation. The structure and colour and texture of the flowers when accurately examined are highly beautiful, but, like those of the Class Syngenesia, require nicety and care in the dissection and analysis. The generic name is altered from *Gromphena* (*γραφω,* to paint) which Pliny applied to the *Three-Coloured,* or *Painted Amaranth,* a plant naturally allied to this. Both possess floral coverings of that peculiarly dry and imperishable nature as to have merited the name of *Everlasting,* and hence they are considered in many countries as the emblems of friendship. In the East Indies the common *Globe-flower* is formed into garlands to ornament the hair, and to adorn instruments of music at the festivals: and in the South of Europe, for the plant is now cultivated in almost every part of the world, churches are decorated with it in the winter.

As a tender annual, the Gomphrena *globosa* requires to be raised in a hot-bed, and planted out during the summer.

Fig. 1. Front view of a Flower, with its three Bracteas. 2. Back view of ditto. 3. Flower. 4. Portion of the Staminal Tube. 5. Pistil. 6. Utricule. 7. Seed.—All more or less *magnified.*

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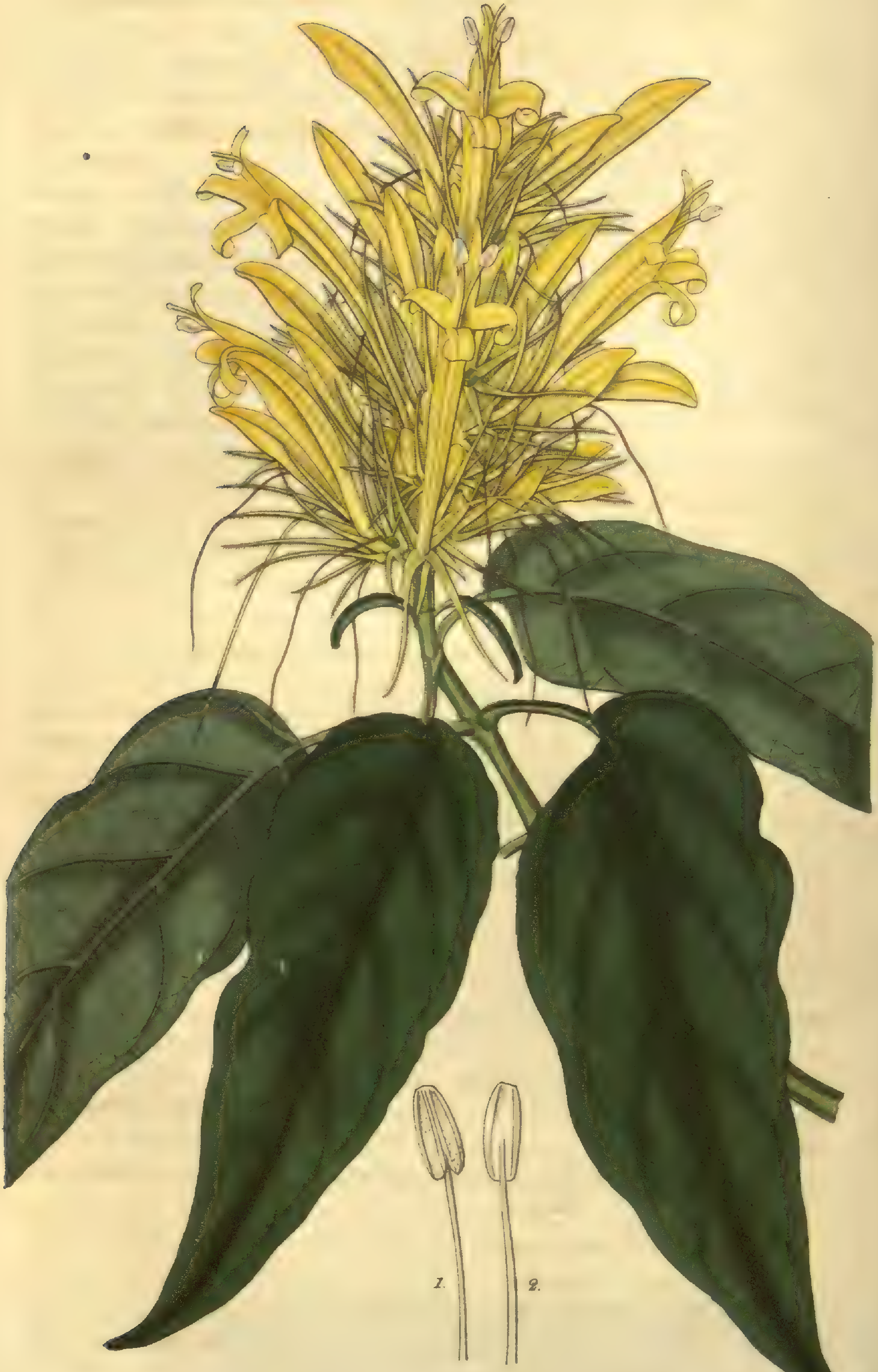

C.M. Curtis delt

Pub. by S. Curtis, Walworth April 1 1828

Swan Sc.

JUSTICIA CALYCOTRICHA. YELLOW-FLOWERED JUSTICIA.

****

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—ACANTHACEÆ.)

Generic Character.

Cal. 4—5-fidus, bracteatus. *Cor.* 2-labiata. *Antheræ* biloculares, loculis sæpe distantibus. *Caps.* ovalis, 2-locularis, loculis dispermis, dissepimento retinacula seminum gestante adnato. *Spr.*

Specific Character and Synonyms.

JUSTICIA *calycotricha;* (antheræ loculis parallelæ) panicula terminali compacta, calyce 5-partito laciniis setaceis longissimis, corollæ labio inferiore tripartito revoluto, superiore recto apice recurvato emarginato, foliis subcordato-oblongis repandis glabriusculis.

JUSTICIA calycotricha. "*Link.*" *Spreng. Syst. Veget. vol. IV. part* 2. *p.* 18.

JUSTICIA calytricha. *Hook. Ex. Fl. t.* 212.

JUSTICIA flavicoma. *Lindl. in Bot. Reg. t.* 1027.

DESCR. *Stem* two to four feet high, branches cylindrical, green, slightly turned near the joints. *Leaves* opposite, upon petioles from one to four inches long, cordate, cordato-ovate, or even approaching to lanceolate, waved and repand, scarcely serrated, to the naked eye appearing glabrous, but when seen under the microscope, exhibiting numerous short, clavate hairs, more abundant on the nerves and margin. *Panicle* terminal, close. *Flowers* large, beautiful, yellow. *Calyx* deeply five-partite, the segments setaceous, sometimes glabrous, often clothed with a minute pubescence, similar to that of the leaves. *Corolla* two to three inches long, quite glabrous, the tube angular: the upper lip straight, narrow, the apex recurved, emarginate, the lower-lip tri-partite, revolute. *Stamens* exserted. *Anthers* yellow, oblong, formed of two parallel cells. *Capsule* ovate, compressed, tapering at the base, so as to be stipitate.

The figure which I gave of this plant in the Exotic Flora being taken from a very indifferent specimen of the plant, I am not surprised that Mr. LINDLEY in the Botanical Register should have expressed an opinion, that it was probably a different species from his JUSTICIA *flavicoma.* A specimen afterwards sent me by the Messrs. SHEPHERDS from the same plant as that figured in the Exotic Flora, corresponds in every particular with Mr. LINDLEY's plate: as does an individual which is now in flower (February 1828) in the Glasgow Botanic Garden.

It is, indeed, a most desirable inhabitant of the stove, and its shewy blossoms are of considerable duration. Its native country is Brazil, and the plant from which our drawing was taken flowered in the collection of Mrs. PALMER, at Bromley, Kent. It is liable, however, to much variation in the size and shape of the leaves, and in the relative length of the petioles. The curious pubescence, which Mr. LINDLEY justly describes, upon the leaves, is only to be seen under the microscope, and, in the calyx, is frequently altogether wanting.

Fig. 1 and 2. Back and front view of the Anther.—*Magnified.*

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Wm Fitch del.

Pub. by S. Curtis Walworth [illegible] 1828.

BIGNONIA COLEI. GENERAL COLE'S BIGNONIA.

****

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—BIGNONIACEÆ.)

Generic Character.

Cal. campanulatus, integerrimus, repandus vel subdentatus. *Cor.* campanulata, limbo bilabiato, 5-lobo. *Filamentum* 5-sterile. *Stigma* bilamellatum. *Capsula* siliquæformis, bilocularis, dissepimento valvis parallelo. *Semina* transversa, biseriata, membranaceo-alata.

Specific Character and Synonym.

BIGNONIA *Colei;* foliis ternato-verticillatis pinnatis bijugis cum impari, foliolis ellipticis integerrimis, floribus in caulem sparsis, capsulis oblongis acuminatis verrucosis.

BIGNONIA Colei. *Bojer MSS.*

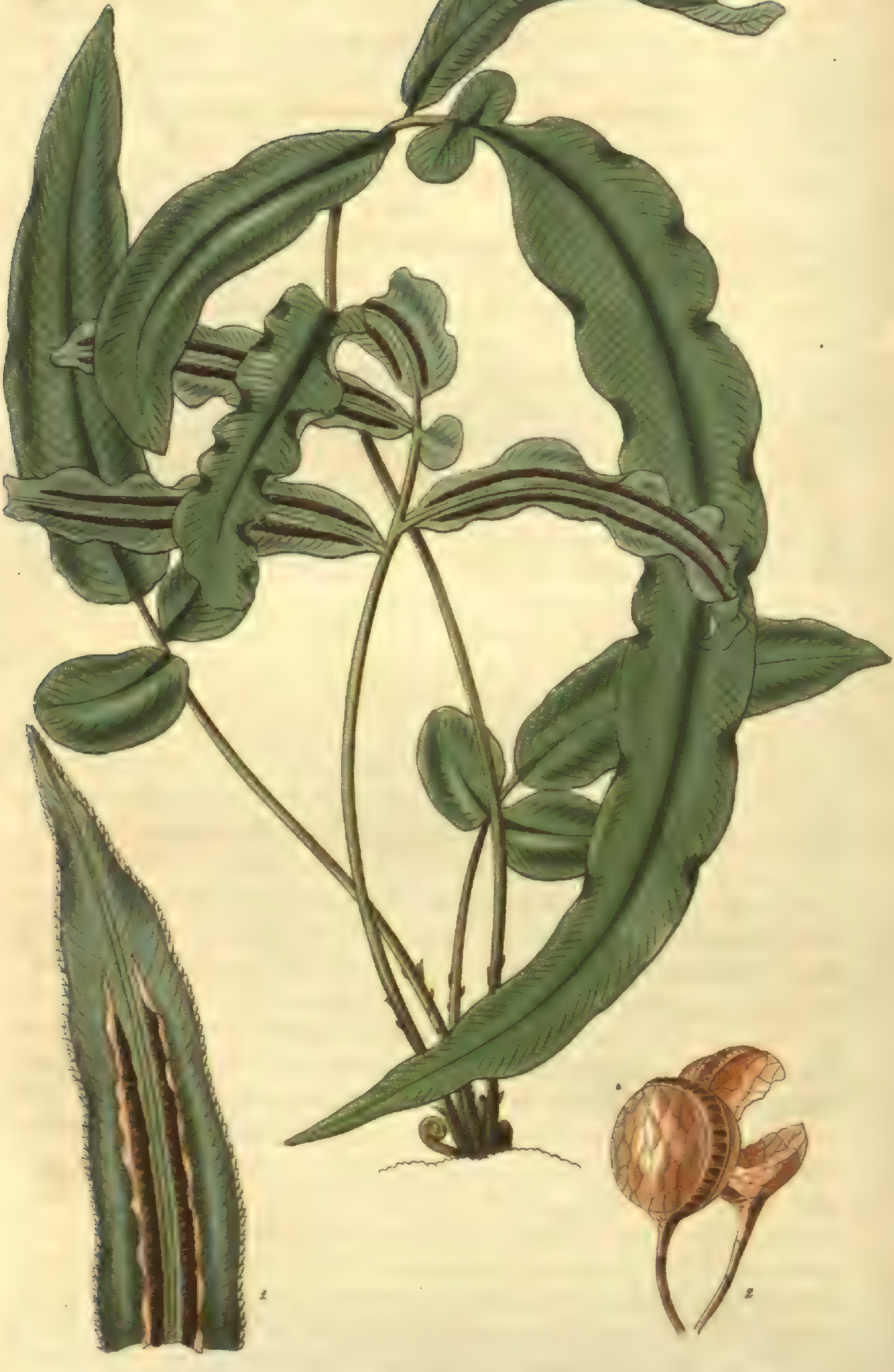
DESCR. A *shrub,* reaching to the height of from ten to fifteen feet, having a greyish wrinkled bark, and bearing the flowers upon the main stem. This *stem* is straight and twiggy, leafy above and generally simple. *Leaves* verticillate, in threes, impari-pinnate, erecto-patent, *leaflets* in two opposite pairs, besides the terminal ones, the lower ones the smallest, oblongo-elliptical, the terminal one oblongo-lanceolate, all of them entire at the margin, unequal at the base, rather obtuse, or often emarginate at the extremity, waved, shortly petiolate, dark green and shining above, paler beneath, glabrous on both sides, nerved; *nerves* most distinct beneath, confluent and reticulated towards the margins. *Petiole* grooved above, swollen at the base or point of insertion. *Flowers* springing from the stem, remote from the leaves. *Peduncles* very short, simple.

Calyx shortly five-toothed, angular, coloured, persistent. *Corolla* with the tube cylindrical, swollen upwards, thrice as long as the *calyx*, reddish, veined with yellow, quite yellow within, the limb patent, five-cleft, the segments roundish, waved, reddish purple. *Stamens* four, fertile; the filaments hairy at the base. *Anthers* two celled. *Germen* ovato-cylindrical, surrounded by a five-toothed urceolate *nectary*. *Capsule* oblongo-cylindrical, terminated by the long caudate *style*, verrucose, two-celled, the *seeds* imbricated, winged. BOJER MSS.

The accompanying figure of this curious species of BIGNONIA was made from a beautiful drawing executed in the Mauritius, by Mrs. TELFAIR, and communicated with many others, to ROBERT BARCLAY, Esq. of Bury Hill. The plant itself was discovered in the month of May of the last year (1827) in the forests of that island, and near the source of the Grand River, South-east, by Mr. BOJER, whose indefatigable exertions in the cause of Botany, have induced his Excellency the governor, to appoint him to a Professorship of that Science, in the establishment of the Royal College at Port Louis. We know that his class has already produced students who, under his able tuition, are zealously exploring the vegetable productions of that most fertile island, and that much is to be expected from them. The very formation of such an institution by SIR GALBRAITH LOWRY COLE would alone entitle that gentleman to have his name commemorated in a plant, a native of the island which he has so ably governed. But his Excellency as well as Lady COLE, have further done every thing in their power to aid the cause of Botany, and have encouraged the transmission of plants to Europe to a very great extent. We have sincere pleasure, therefore, in giving greater publicity to this beautiful species of BIGNONIA, named in honour of the governor, by Mr. BOJER, in testimony of his respect and gratitude.

There can be no question, but that living plants will soon be seen in the stoves of our own country, through the means of Mr. TELFAIR.

Fig. 1. Specimen, reduced to one-third of its *natural size*. 2. Portion of the Trunk with Flowers in different states of perfection. 3. Portion of the Corolla with Stamens. 5. Pistil and Nectary. 6. Seminal Receptacle and Seeds. 7. Seeds.—*Magnified*.



W.J.H. del.

Pub. by S. Curtis Walworth April 1.1828.

Swan Sc.

BLECHNUM LONGIFOLIUM. LONG-LEAVED BLECHNUM.

****

Class and Order.

CRYPTOGAMIA FILICES.

(Nat. Ord.—FILICES.)

Generic Character.

Sori lineares, solitarii, costæ paralleli. *Involucrum* superficiarum, continuum, interius liberum v. dehiscens. *Br.*

Specific Character and Synonyms.

BLECHNUM *longifolium;* frondibus pinnatis, pinnis (quinque aut septem) lineari-lanceolatis subsessilibus marginibus scabris, terminali longiore petiolata.

BLECHNUM longifolium. *Humb. et Kunth Gen. et Sp. v. 1. p. 13. Willd. Sp. Pl. v. 5. p. 413. Spreng. Syst. Veget. v. 4. p. 93.*

DESCR. *Root* scarcely creeping, scaly, throwing out many branching fibres. *Caudex* four to six or eight inches high, and in my wild specimens, even ten inches high, greenish except at the very base, where it is brown, and where are likewise a few scales, slender, grooved on one side. *Frond* about equal in length with the caudex, pinnated; *pinnæ,* in my most perfect specimens, always five, according to HUMBOLDT, sometimes seven in number, linear-lanceolate, slightly falcate, acuminate, entire, more or less waved, and the margin beset with numerous very minute setæ or bristles, which point upward; the lateral ones are from four to six inches long, opposite or alternate, nearly sessile; the terminal one is half as long again, has the base more rounded, and a petiole more than half an inch long. The sterile pinnæ are often small and rounded. The *colour* is a deep shining green, and the surface is marked with many parallel, almost horizontal nerves; beneath paler. *Fructifications* forming a continued line on each side of, and very near the midrib, reaching from near the base almost to the summit. *Involucre* opening inward. *Capsules* very numerous, brown.

Like the tropical ORCHIDEÆ, the Exotic Ferns were long supposed to be very difficult of cultivation; but now, in many stoves of our country they form a striking and a beautiful feature; and they possess this peculiar advantage, that they flourish, perhaps, best, where other plants will scarcely live, namely, under the shade of taller plants. Thus they may be advantageously employed to fill up vacancies upon the stages, which otherwise look bare and unsightly, with a foliage the most varied and most graceful that can be imagined. They delight in a peat or heath soil; and in the Liverpool and Glasgow Botanic Gardens, as well as, I believe, at Mr. LODDIGES, where the most numerous collections may be found, the roots are placed between two broken pieces of a garden pot, and always kept moist: a simple way of imitating the rocky situations in which so many of them are seen in a state of nature.

The present species may be reckoned among the rarest that we have in cultivation, and it was sent to the Glasgow Botanic Garden, with very many others, by Mr. LOCKHART from the island of Trinidad. No other Botanist seems to have been acquainted with it except HUMBOLDT, who discovered it growing in the opposite country of the Caraccas, in shady and stony places, near San Augustin and Caripe, at an elevation of almost three thousand feet above the level of the sea.

Fig. 1. Extremity of a Pinna, with its Fructification. 2. Capsules.—*Magnified.*

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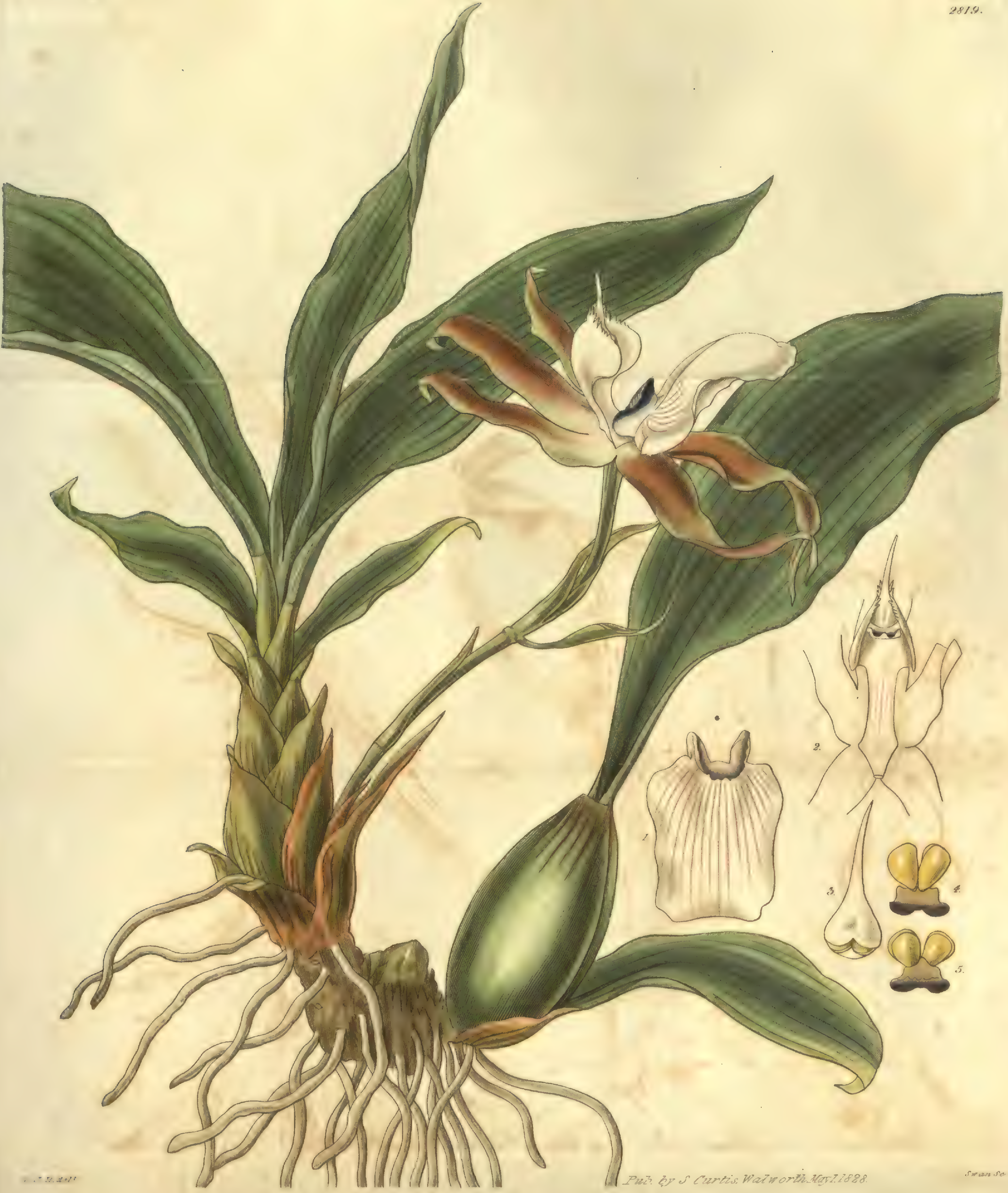

W. J. H. del.

Pub. by S Curtis. Walworth May 1.1828.

Swan Sc.

ZYGOPETALON ROSTRATUM. ROSTRATE ZYGOPETALON.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ. DIV. IV. Anthera terminalis mobilis decidua; Massæ pollinis demum cereaceæ. *Br.*)

Generic Character.

Petala æqualia, basi (tria superiora precipue alte) connata. *Labellum* explanatum, disco tuberculo carnoso magno; basi calcare obtuso vel nullo. *Columna* margine superiore alata. *Anthera* compressa, calceiformis, disco subtus affixa, loculis duobus bivalvibus. *Massæ pollinis* duæ, bilobæ, *glandula* magna inserta.

Specific Character.

ZYGOPETALON *rostratum;* labello rotundato integro marginibus reflexis, columna alis rotundatis, anthera longe rostrata.

DESCR. Parasitic. *Roots* simple, whitish, fleshy. *Bulbs*, when fully grown, and after the falling away of the leaves, oblong, compressed, pale green, smooth. *Leaves*, several, distichous, lanceolate, submembranous, striated, acute. *Scape* arising from the base of the young leafy stem, five to six inches long, terete, having here and there foliaceous scales, and bearing one (or more) flower; upper scale, or bractea, large, concave. *Flower* very large, handsome, scentless. *Petals* greenish-brown, spreading horizontally, linear-lanceolate, acuminate, waved, the three upper ones connate for one-fourth of the way, so as in fact to be one tripartite petal, the two lower ones connate to a lesser height from the base; but the whole five when seen from the underside are united into one piece around the top

of the germen. *Lip* nearly as long as the petals, very broad, subrotundate, the margins reflexed, pure white, with a few radiating red lines near the base, and at the very base, a large fleshy tubercle, in shape resembling the reversed hoof of a horse, purple at the edge, slightly crenated, elegantly and delicately pencilled with red within. *Column* semicylindrical, the margin above projecting forward into two rounded wings, the upper margin distinctly spinuloso-serrate. *Anther* ovate, compressed, slipper-shaped, white, as is the whole column, tapering into a long beak, which surmounts the column considerably, shortly two-lipped, within having two bilabiate membranous cells, in which the pale yellow *pollen-masses* are lodged. These *pollen-masses,* four in number, (or two, each two-lobed) are attached to a very large, notched, horny, dark purple *gland,* which projects beyond the base of the anther-case, and lapt over the square *stigma;* the under-side of the gland, is, at the lower extremity, covered with a clammy fluid. *Germen* cylindrical, not twisted.

At tab. 2748* of the present work, I had the pleasure of figuring a new Orchideous plant from Brazil, upon which I founded the Genus ZYGOPETALON: and it is with no small satisfaction that I am now able to give a second species of this handsome and curious genus, and one no less remarkable in the size and structure of its flowers. The credit of introducing this fine plant from Demerara to the Liverpool Botanic Garden, is due to our excellent friend C. S. PARKER, Esq. Beneath the perfect blossom in the figure will be seen an abortive flower, so that in all probability the scape when in perfection is two or many-flowered; and under any circumstances the plant is highly deserving of cultivation. It flowered in October, 1827.

Fig. 1. Front view of the Lip. 2. Column and base of the Petals. 3. Anther, seen from the underside. 4. Pollen Masses. 5. Ditto, seen from the underside.—*Magnified.*

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* *Z. Mackaii;* labello subrotundato emarginato, columna vix superne alata, anthera obtusa.

W. J. H. delt

Pub. by S. Curtis. Walworth. May 1 1828

CACTUS ALATUS. WING-STEMMED CACTUS.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord.—CACTI. DIV. PHYLLANTHI.)

Generic Character.

Cal. e squamis imbricatis, superus. *Petala* calyci inserta, interiora majora, basi coalita. *Stigma* multifidum. *Bacca* umbilicata, polysperma. *Semina* intra pulpam nidulantia.

Specific Character and Synonyms.

CACTUS *alatus ;* caulibus articulatis proliferis, articulis oblongis compressis marginibus crenato-lobatis nudis, floribus (parvis) in sinubus crenarum solitariis, tubo nullo, petalis 5, subæqualibus, stigmatibus 5.

CACTUS alatus. *Swartz. Prodr. p.* 77. *Fl. Ind. Occ. p.* 278. *Willd. Sp. Pl. v.* 2. *p.* 945. *Spreng. Syst. Veget. v.* 2. *p.* 498.

EPIPHYLLUM alatum. *Haw. Suppl. Pl. Succ. p.* 84.

CACTUS mitis minor, &c. *Brown Jam. p.* 237.

OPUNTIA non spinosa minima caulescens, &c. *Sloane's Jam. v.* 2. *p.* 159 ?

DESCR. *Plant* one to two feet high, jointed and branched in a proliferous manner ; *joints* from four to six inches in length, oblong, remarkably compressed, varying in breadth from one to three inches, the margins slightly thickened, crenato-lobate, every where glabrous. There is a distinct midrib running through the centre of these, and bundles of vessels forming lateral, thickened nerves or ribs, leading off from it, and extending in a curve, whose convexity is uppermost, to the crenatures. The *colour* of the plant is rather a dark green, the ribs and margin often reddish. *Flowers* numerous upon the joints, solitary in

each crenature, small and not unlike those of the Rhipsalis tribe. The base is occupied by the *germen*, which is nearly sphærical, pale green, smooth. *Calyx* of three small, oval, concave, brownish, scariose *leaflets*, but gradually becoming larger and more petaloid, and passing almost insensibly into the five, pale yellowish green, spreading *petals*: tube none. *Stamens* numerous, inserted within the united bases of the calyx and corolla. *Filaments* rather longer than the corolla, white. *Anthers* didymous, yellowish white. *Style* filiform, as long as the stamens. *Stigmas* four, or generally five, linear, recurved, pubescent, white..

A flowering specimen of this singular species of Cactus was obligingly communicated, in November, 1827, by Mrs. Arnold Harrison, of Aigburgh, together with an excellent sketch of the natural size of the plant; which last is copied on a very reduced scale at fig. 1. of the accompanying plate. That lady received it from her brother William Harrison, Esq. of Rio, who discovered it in the Organ mountains. I was at first disposed to consider it distinct from Cactus *alatus*, more, however, from the country which it inhabits (so distant from Jamaica, the only station hitherto given for that plant), than from any other circumstance: for I have generally considered the Cacti to be peculiarly local in their geographical distribution. Swartz's description, however, especially his account of the size and colour of the flowers of his Cactus *alatus*, is such as to forbid their being kept separate: at the same time, as there is no figure of the plant existing, I cannot determine the point with certainty. Sloane refers to Cactus *Phyllanthus* in Plukenet, which has unusually large flowers; whereas our plant has rather the blossom of the Rhipsalis than the Phyllanthus tribe: thus shewing that a similar habit in the plant and in the flowers are not always combined in this tribe, and that we ought to be cautious how we separate this family into Genera. Mr. Haworth had never seen the inflorescence, which does not agree with his Genus Epiphyllum.

Fig. 1. Reduced figure of the entire Plant. 2. Portion of ditto, natural size. 3. Stamen. 4. Pistil, with the Germen cut through.—*Magnified.*

W. J. H. del. Pub. by S. Curtis, Walworth May 1.1828.

SIDA GLOBIFLORA. GLOBE-FLOWERED SIDA.

****

Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Cal. nudus, quinquefidus, sæpe angulatus. *Stylus* apice multifidus. *Carpella* capsularia, 5—30, circa axin verticillata, plus minusve inter se coalita, 1-locularia, mono- aut oligosperma, apice mutica aut aristata. *D. C.*

Specific Character.

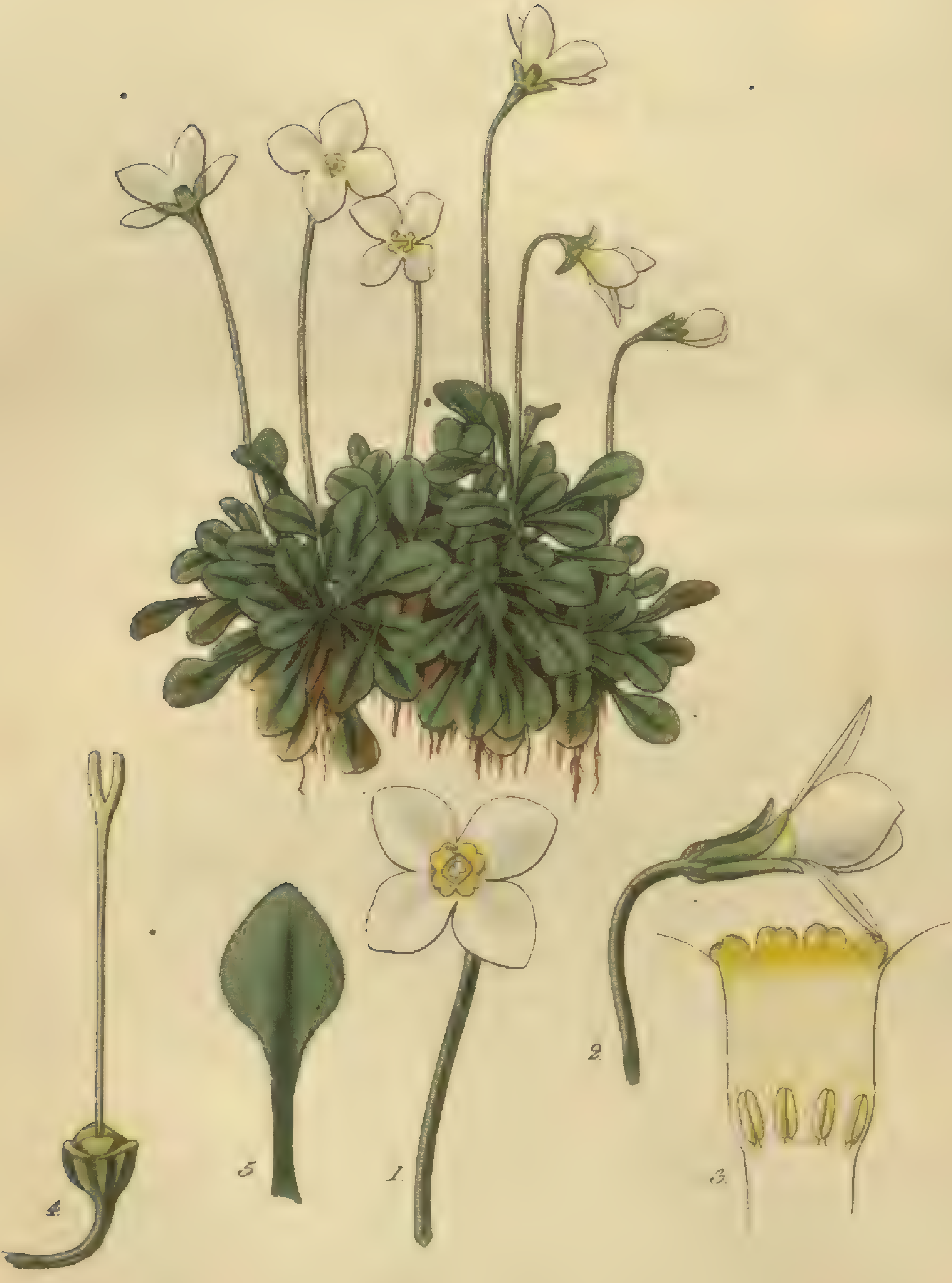
SIDA *globiflora ;* glabra, foliis longe petiolatis cordatis subseptemnerviis serratis apice valde attenuatis integerrimis, pedunculo solitario longitudine petioli, calyce basi truncato, corolla subglobosa nervosa.

DESCR. The *Plant* from which the accompanying figure is taken forms a *shrub* four to five feet high, with a few straggling branches towards the top, which are terete, green, quite glabrous. *Leaves* remote, large, cordate, petiolate, glabrous, marked with from five to seven nerves, which spring from the base, and branch off nearly transversely into smaller ones ; the base is truncated, and as well as the long, attenuated, almost cordate extremity, entire ; while the rest of the margin is strongly serrated. *Petiole* often almost as long as the leaf, slender, having small, subulate, deciduous stipules at the base ; the extremity, where it is inserted upon the leaf, thickened. *Flower* solitary, rather large, and slightly pubescent, terminating an axillary peduncle, which is about equal in length with the petiole. *Calyx* cup-shaped, the base truncated, the segments ovate and generally reflexed. *Corolla* of a pale yellow or straw colour, its *petals* united by their claws to the base of the column : the *limb* erect, very concave, rounded, obtuse, imbricating at the margin, and forming, collectively, a somewhat globe-shaped corolla, with a comparatively small opening at the top: each petal too, is marked with elevated nerves. *Column* of *stamens* as long as the corolla, slender, spreading at the extremity into many filaments, each terminated by a one-celled orange-coloured *anther*, whose lips or divisions are bent backward after the discharge of the pollen. *Pistil: Germen* roundish, of ten compact divisions, pubescent, apparently muticous. *Style* as long as the column of stamens, separating at the extremity into ten divisions, each bearing a globular yellow *stigma*.

This singular and very distinct species of SIDA, I can no where find described by authors, and have hence named it from the globose appearance of the corolla. The seeds were sent by Mr. BOJER and Mr. TELFAIR, to the Glasgow Botanic Garden, where the plant flowered in November, 1827. A native, we presume, of the Mauritius. No seeds have yet been produced with us.

Fig. 1. Filament with its advanced Anther. 2. Pistil.

2822.



W.J.H. delt. Pub. by S. Curtis, Walworth, May 1.1828. Swan

HOUSTONIA SERPYLLIFOLIA. THYME-LEAVED HOUSTONIA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—RUBIACEÆ.)

Generic Character.

Cal. 4-fidus. *Cor.* infundibuliformis, 4-fida. *Stigma* bifidum. *Caps.* bilocularis, placenta fungosa dissepimento annexa.

Specific Character and Synonyms.

HOUSTONIA *serpyllifolia ;* cæspitosa, ramis brevibus numerosis, foliis spathulatis subhirsutis, pedunculis terminalibus unifloris elongatis.

HOUSTONIA serpyllifolia. *Mich. Fl. Bor. Am. v.* 1. *p.* 85. *Pursh. N. Am. Fl. v.* 1. *p.* 106. *Ræmer et Schultes Syst. Veget. v.* 3. *p.* 208. *Spreng. Syst Veget. v.* 1. *p.* 427.

DESCR. Cæspitose, bearing many rooting *stems*. *Leaves* rotundato-ovate, decurrent, on nearly flat petioles, which are longer than the leaves, pointed or blunt, bearing a few hairs on the surface, chiefly at the margin, and there ciliated, deep green above, pale below, destitute of prominent veins. *Peduncles* terminal, four-sided, about three inches long, upright, bent nearly horizontally close to the flower, free from bracteas. *Calyx* tetraphyllous, leaflets lanceolate, or lineari-lanceolate, more or less spreading, green. *Corolla* hypocrateriform, *tube* equal in length to the calyx, contracted below the insertion of the stamens, and above this point pubescent without. *Limb* spreading, four-parted, segments oval, approaching to obovate, acute, white, with an obcordate yellow stain at the base of each segment of the limb, and these being confluent, surround the faux with a yellow margin. *Faux* four-sided. *Stamens* nearly sessile, inserted into the tube of the corolla, at about one third of its height. *Anthers* linear, oblong, yellow. *Germen* inferior, quadrangular, bilocular: *Style* very slender: *Stigma* bifid, large, exserted.

This plant flowered in June 1827, in the nursery grounds of Mr. CUNNINGHAM, Cowley Bank, near Edinburgh, at the same time with the POLYGALA *pauciflora*. Both were brought from North America by Mr. BLAIR, and the subject of the present article was found by him, on the tops of the mountains of New Hampshire, surrounded by abundance of MENZIESIA *cærulea* and ANDROMEDA *hypnoides*. GRAHAM.

Fig. 1. Front view, and 2. side view of a Flower. 3. Faux of the Corolla shewing the insertion of the Stamens. 4. Pistil. 5. Leaf.—All more or less *magnified.*

2823.

W. J. H. del.t Pub. by S. Curtis, Walworth, May 1. 1828. Swan Sc.

(2823)

OCTOMERIA SERRATIFOLIA. SERRATED-LEAVED OCTOMERIA.

****

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum articulatum cum processu unguiformi, cujus lateribus petala antica adnata. *Massæ pollinis* 8. *Br.*

Specific Character.

OCTOMERIA *serratifolia;* caule folioso, foliis lineari-lanceolatis distichis apice denticulato-serratis, racemo terminali paucifloro.

DESCR. Parasitic. *Stem* six to seven inches high, erect, two edged, a little waved, clothed with many distichous, linear-lanceolate, striated, more or less carinated, rather rigid *leaves,* sheathing at the base, at the apex denticulato-serrate. *Raceme* terminal, few-flowered, having small bracteas at the base of each flower, with rather long sheathing bases. *Petals* five, nearly equal, moderately spreading, lanceolate, pale yellowish white, striated, the two lower ones placed one on each side the lip. *Labellum* oblong, shortly three lobed, crenate at the margin, white, with a thickened, broad, winged line in the centre. *Column* semicylindrical, white. *Anther* operculiform, with two large cells, each divided by an imperfect septum into two. *Pollen Masses* eight, pale yellow, broadly obovate, *gland* of union very indistinct.

This curious genus, having the pollen in each *anther* composed of eight distinct masses, was established by Mr. BROWN upon the single individual species, the DENDROBIUM *graminifolium** of WILLDENOW. A second species is described by Mr. Don, as a native of Nepal; and now a third species, the subject of the present plate, has been detected in the Organ mountains, near Rio Janeiro, by William Harrison, Esq., and by him introduced to the collection of his sister, Mrs. Arnold Harrison, of Aigburgh, near Liverpool, where it flowered in November, 1827, and by whom it was kindly communicated to me. The habit of the plant is, indeed, considerably different from that of the species already figured in this work, but in the structure of the flower, and in the essential generic characters, they are the same.

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* Figured at Tab. 2764 of this work.

Fig. 1. Front view of a Flower. 2. Side view of the Labellum. 3. View of the upper side of ditto. 4. Inside view of the Anther-case. 5. Pollen Masses.—All more or less *magnified*.

2824

W. J. H. del.ᵗ

Pub. by S. Curtis, Walworth, May 1. 1828.

Swan sc.

BUDDLEA MADAGASCARIENSIS. MADAGASCAR BUDDLEA.

****

Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—VITICES.)

Generic Character.

Cal. 4-fidus. *Cor.* 4-fida. *Caps.* bilocularis, dissepimentum e marginibus valvarum. *Semina* paleacea.

Specific Character and Synonyms.

BUDDLEA *madagascariensis;* ramis sub-4-gonis, foliis ovato-lanceolatis petiolatis supra glabris rugulosis subtus ferrugineo (vel albo) tomentosis, racemis terminalibus, pedicellis 3-floris. *Spr.*

BUDDLEA madagascariensis. *Lam. Encycl. v.* 1. *p.* 513. *Dict. t.* 69. *f.* 3. *Vahl Symb. Fasc.* 3. *p.* 14. *Willd. Sp. Pl. v.* 1. *p.* 633. *Spreng. Syst. Veget. v.* 1. *p.* 428.

DESCR. A twiggy and straggling shrub, having a cottony and obtusely four-sided stem. *Leaves* opposite, remote, ovato-lanceolate, quite entire, dark green on the upper surface, and wrinkled with the numerous reticulated veins, below cottony, white, or inclined to rusty: the same cottony substance cloathes the petioles, which are an inch or more long, and the peduncles and the pedicels. The *flowers* are numerous, and placed in an erect compound *raceme;* the *pedicels* half an inch long, spreading, each bearing three, or in the lower part of the stem, sometimes five *flowers,* and having a small subulate bractea at the base. *Calyx* small, oval, four-toothed, cottony. *Corolla* funnel shaped; marcescent, the *tube* rather long, cottony; the segments four, spreading, the margins more or less recurved, without downy, within quite glabrous, and of a bright reddish orange colour. *Stamens* four, inserted just within the mouth, at the sinus of the segments. *Filaments* very short. *Anthers* oblong. *Pistil: Germen* rounded, downy : *Style* filiform, as long as the tube and reaching to the stamens: *Stigma* clavate.

This is a very desirable inmate of the stove, and may probably be found sufficiently hardy to bear the greenhouse. The stem and underside of the leaves, clothed with a dense white or rust-coloured tomentum, form a singular contrast with the dark green of the upper surface of the leaves, and with the rich orange colour of the flowers, which yield a powerful honey-like smell.

It is a native of Madagascar, and appears to have been first gathered there by SONNERAT, who gave it the name of *Vigne de Malgache*. Seeds have been sent to this country, by Dr. WALLICH, from the Botanic Garden at Calcutta; and we had the pleasure of seeing it flower, and the opportunity of figuring it at the Botanic Gardens of Edinburgh, and Kew, and Glasgow, almost at the same time, namely in the autumn of 1827.

In the expansion of the flowers, the lowermost open first, and of the three on each pedicel, the middle one, according to Dr. GRAHAM's observations.

Fig. 1. Pedicel with its three Flowers. 2. Calyx with the Pistil. 3. Stamen removed from near the summit of the Tube of the Corolla.—*Magnified.*

2·5

W. J. H. del.

Pub. by S. Curtis, Walworth May 1. 1828.

DIOSCOREA CINNAMOMIFOLIA. CINNAMON-LEAVED DIOSCOREA, OR YAM.

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Class and Order.

HEXANDRIA TRIGYNIA. *Spr.* (DIŒCIA HEXANDRIA. *Linn.*)

(Nat. Ord.—DIOSCOREÆ.)

Generic Character.

Flores dioici. *Perianthium* simplex, 6-partitum. *Capsula* trilocularis. *Semina* alata. *Spr.*

Specific Character.

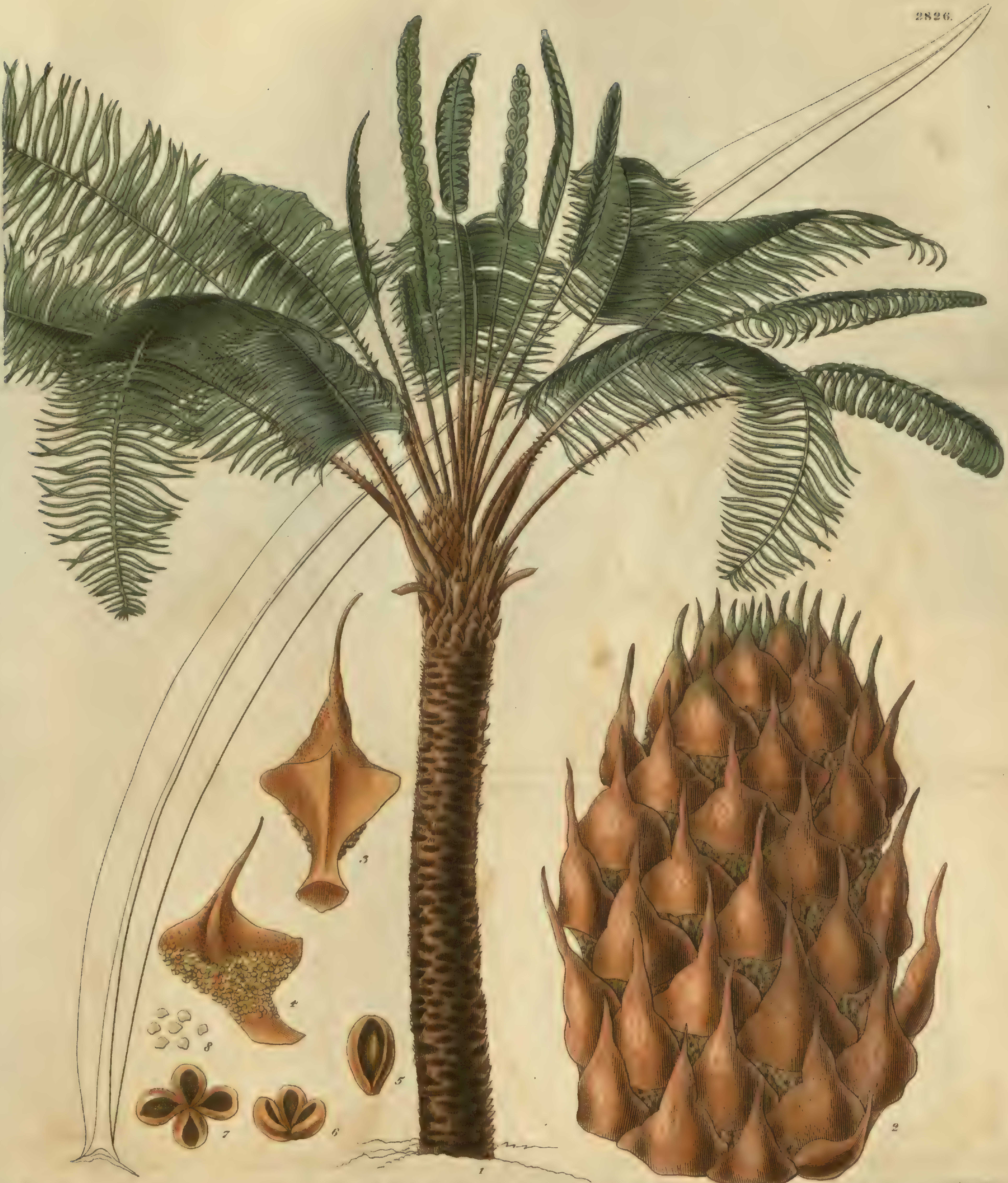
DIOSCOREA *cinnamomifolia;* caule inermi striato petiolisque pubescenti-hirtis, foliis alternis oblongis acutis trinerviis coriaceo-subcarnosis, racemis simplicibus vel compositis.

DESCR. *Root* a roundish, ill-shapen *tuber,* as large as the human head. *Stem* twining, branched, striated, and pubescenti-hirsute, hairs brownish: whole plant destitute of prickles. *Leaves* alternate, petiolate, oblongo-acuminate, quite entire, of a texture between coriaceous and fleshy, shining, having three distinct nerves or ribs, which are prominent on the under side, where the leaf is of a paler green, and where, near the base, are some dark dots or glands: the margin itself, when held between the eye and the light, is seen to have a thin pellucid margin. *Petioles* from three-fourths of an inch, to an inch long, hairy like the stem. *Male Racemes* apparently always solitary, axillary, hairy, often compound at the base; *pedicels* branched, each with a lanceolate *bractea. Perianth* cup-shaped, deeply six-partite, the segments spreading, oblong, yellow-green. *Stamens* six, opposite to the divisions of the perianth. The *female* flowers I have not seen.

Detected in the woods about Rio de Janeiro, by William Harrison, Esq. and by him introduced to the valuable collection of his sister, Mrs. Arnold Harrison, at Aigburgh, near Liverpool. Its flowering season is November. The male plant alone is at present known. We are ignorant of the nature of the fruit, which may perhaps prove it to be a Rajana; and, indeed, in specific character, it seems to be allied to Swartz's Rajana *ovata*.

Fig. 1. Flowers from the Raceme. 2. Section of a Male Flower to shew the Stamens.—*Magnified.*

2826.



W. J. H. delt
Pub. by S. Curtis, Walworth, June 1, 1828.
Swan sc.

(2826 2827)

CYCAS CIRCINALIS. BROAD-LEAVED CYCAS.

Class and Order.

DIŒCIA POLYANDRIA.

(Nat. Ord.—CYCADEÆ. *Pers. Br. Rich.*)

Generic Character.

Fl. dioici. MASC. amentacei; *amentum* crassissimum, squamis subimbricatis, axi communi insertis, subtriangulatis, ab apice ad basin angustatis, apice mucrone recurvo terminatis, subtus inordinate antheris bivalvibus conspersis. FŒM. in spadices ensiformes, foliaceo-carnosos, marginibus floriferis dispositi; floribus erectis, semi-immersis, in utroque margine 3—4. *Fructus* drupacei, erecti.

Arbores *stipite erecto, tereti;* foliis *coronantibus, pinnatis.* Rich.

Specific Character and Synonyms.

CYCAS *circinalis;* foliorum pinnis lineari-lanceolatis planis petiolis aculeatis spadicibus fœmineis paucifloris acuminatis inciso-serratis, fructibus ovato-globosis glabris.

CYCAS circinalis. *Linn. Sp. Pl. p.* 1658. *Burm. Fl. Ind. p.* 240. (excl. syn. *Breynii, Sebæ, et Kæmpferi.*) *Willd. Sp. Pl. v.* 4. *p.* 844. *Pers. Syn. Pl. v.* 2. *p.* 631. *Lam. Encyl. v.* 2. *p.* 231. (*" excl. Sebæ Syn. Sup. II.* 425. *in observatione."*) *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 409. *Hamilton in Linn. Trans. v.* 15. *p.* 81. *Hamilton in Comment. on the Herb. Amb. p.* 19. *Annales du Mus. d'Hist. Nat. v.* 16. *t.* 20. (*fruct.*) *Nouv. Dict. d'Hist. Nat. v.* 12. *p.* 275. (*cum Iconibus duabus*). *Dict. Classique. v.* 5. *p.* 218. *Rich. Mém. sur les Conif. p.* 187. *t.* 24, 25, 26. *Graham in Hist. of Rare Plants in Edinb. New Phil. Journ.* 1827, *p.* 175.

Cycas frondibus pinnatis, foliis lineari-lanceolatis, stipitibus spinosis. *Linn. Fl. Zeyl. p. 393. (" excl., nisi Raii, synonymis omnibus.")*

Todda panna. *Rheede Hort. Malab. v. 3. p. 9. t. 13—21.*

Olus *calappoides* e *Celebe* vel ex insulis Ulasseriensibus. *Herb. Amb. v. 1. p. 87, 89. t. 22, 23.*

Palma *Indica;* caudice in annulos protuberante distincto. *Raii Hist.* 1360.

Descr. Male Plant. *Trunk,* when attaining its full growth, from fifteen to twenty feet high; in the individual from which our drawing was taken, and to which I shall confine my description, between four and five feet, and half a foot in diameter, of an equal thickness throughout, marked with the scars whence the old leaves have fallen, but scarcely annulated; between which scars, the trunk is shaggy with the old, and jagged downy scales or stipules, which accompany the base of the leaves, and which are yet in a perfect state at the top of the stem: these are cordate and turgid at their base, and very much acuminated. From amongst them, and at the very top of the stem, is a crown of most beautiful *foliage.* The spread of the *leaves* is twelve feet, each six and eight feet long, including the petiole; for three quarters of the length, from the extremity, pinnated, with linear-lanceolate, nearly horizontal, plane, subflexuoso-falcate *pinnæ,* from twelve to fourteen inches long, dark green on the upper side, paler beneath, quite glabrous, having a strong, pale midrib running through the centre. *Rachis* unarmed. *Petiole* swollen at the base, clothed with ferruginous, evanescent down, and unarmed; upwards glabrous; and spinous at the margin, from abortive pinnæ. The young leaves have a very beautiful appearance, being of a delicate pale green, and having the pinnæ singularly involute, like the young fronds of a *Fern.*

From among the crown of the leaves, at the top of the trunk, and nearly, if not entirely sessile, is the *male amentum* produced. This is between four and five inches long, ovate. *Scales* large, loosely imbricated, ferruginously downy; the lower half tapering, inserted horizontally, the upper half takes a curvature upwards and tapers into an erect, sharpened, and long point. Upon these scales, on the under side of the lower half, the numerous *Anthers* are crowded

2827.

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W.J.H. delt.

Pub. by S Curtis, Walworth June 1 1828.

Swan Sc.

crowded together, sometimes singly, sometimes two, three, or four together, in which latter case the opening of each anther, which is one celled, is interiorly. The consistence of these is horny; and they contain within them a pale yellow *pollen*, which, if I have seen it in a perfect state, is roundish, angular, and pellucid.

The Female Plant, which I have not seen, according to Richard, throws up likewise from the extremity of the trunk, among the leaves, a cluster of numerous *spadices*, (tab. 2827, f. 1.) a foot long, somewhat imbricated, clothed with a reddish down, of a thick coriaceous texture, the extremity lanceolate, acuminate, and serrated, tapering below. Beneath the extremity the margin is broadly sinuato-dentate, and within each projection, or tooth-like process, is, pointing upwards, a cavity, in which is almost half immersed the solitary *female flower*. The same author, Richard, takes the following view of the structure of each flower. It is subglobose, about the size of a pea, and resembles a naked pistil, slightly depressed at the top, and there having a small, cylindrical, perforated papilla, resembling a stigma. Tab. 2827, f. 2, represents a *female* flower, cut through vertically; *a*. the fleshy calyx or single perianth, surrounding the flower; *b*. its perforated cylindrical mouth or limb; *c*. the inner indurated or nucumentaceous portion of the calyx; *d*. a somewhat fungous substance filling the internal cavity of the calyx, and adhering to the half-immersed germen in the centre; *e*. the superior and free part of the germen. Other Botanists, and amongst them Mr. Brown, seem rather disposed to consider the *female flower* as a monospermous pistil, having no proper floral envelope. Of the female fructification, I have only seen the perfect *fruit*, and of that but a single specimen, which I have here figured. In it I perceive nothing to militate against its being destitute of any floral envelope; hence I shall adopt the terms simply applied to a fruit, considering the whole as a *Drupa* *, about the size of that of a walnut, roundish-oval, smooth, glabrous, reddish-orange, having a small perforation at the top, f. 3. The outer pulpy portion is about half a line thick, which surrounds the corneous or subosseous thinner coat. Immediately within that, and free from adhesion with it, is a beautiful membranaceous lining, of a rich brown colour, marked with longitudinal veins, as seen when held up between the eye and the light. A portion is represented at tab. 2827, f. 5. *a*. It immediately surrounds (but has no connection with it, except at the very point) the *almond*, or oval, carnose, yellowish-white *albumen*, having a depression at the top conducting to the *embryo*, which is imbedded in a cylindrical cavity in the upper half of the *albumen*, attached by its radicle to the upper extremity of the cavity by means of a flat, white, membranaceous *filament*, which is curiously folded, and so compactly, as to occupy a very small space in the top of the cell, but which may, without rupturing it, be drawn out to the length of an inch and a half, or two inches. *Cotyledons* two, straight, cylindrical, flattened in the inside, one a little longer than the other, and closely applied; but easily separated, and thin at the base. F. 7. is seen lodged in a cavity of the two cotyledons, the *plumule* of two lobes, in this instance. *Radicle* conical, tapering into the curious filamentous stalk above mentioned.

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* Not to multiply figures unnecessarily, I may refer to the Section of the *female flower*, tab. 2827, f. 2, which will equally serve to illustrate Richard's ideas of the fruit. The germen, f. *e*, being with him of course the fruit; his *Nucleus* still immersed in the fungous substance, f. *d*. All without that (his calyx) equally accompanies the fruit as the flower. This fungous substance, however, did not exist in my fruit.

Of the four species of CYCAS, now enumerated as being cultivated in our gardens, only one has hitherto been recorded as having flowered with us; namely, the CYCAS *revoluta*, of which a description and a splendid figure has been given by Sir JAMES SMITH, in the sixth volume of the Transactions of the Linnæan Society of London. It was, therefore, with no small pleasure that I was invited, by my excellent friend Dr. GRAHAM, to visit the Edinburgh Botanic Garden, in the month of May, 1827, for the purpose of seeing the CYCAS *circinalis*, which had thrown up from among its noble crown of leaves, a perfect *Male Amentum*. From that plant my figure and description have been taken; and in order to render its history more complete, I have copied a *female* spadix from RICHARD's inestimable work on the CONIFERÆ, together with a *female* flower; and to them I have added an analysis of a ripe fruit, which was sent to me from St. Helena, by the kindness of his Excellency General WALKER. The species has been cultivated in our stoves for upwards of a century; the Sloanean MSS. in the British Museum, as quoted in Hortus Kewensis, stating it to have been introduced in 1700, by the Earl of Clarendon; and it is, assuredly, one of the most ornamental of all plants, but requiring a great deal of space for the display of its leaves. Its native country is the East

Indies, especially the Molucca Isles, where the fruit is eaten, and where a substance is said to be taken from the stem, resembling the Sago produced by the trunks of many Palms But this is probably a mistake; at any rate, it is by no means from this tree, as some have supposed, nor from any species of CYCAS, that the *Sago* of the Shops is produced, but from a species of *Sagus* *, a true Palm, though from what particular species, or whether any one exclusively, does not appear to be yet ascertained. In the gardens and plantations towards the sea-coast of the Southern provinces of Malabar, according to Dr. (BUCHANAN) HAMILTON'S Travels in the Mysore, vol. 2. p. 469, the CYCAS *circinalis*, called *Indu* by the natives (TODDA *panna* of the Hortus Malabaricus) is very common; but it grows spontaneously from the nuts that accidentally fall. The nuts are collected; and having been dried for a month in the sun, are beaten in a mortar, and the kernels formed into a flour, which the natives eat and call *Indum Podi*. It is reckoned superior to the flour obtained from the stem of the ERIMPANNA (CARYOTA); but is only used by the poor, who, between the 14th of July and the 13th of September, are in danger of perishing: it is prepared during the former month, and cannot be preserved longer than the end of the latter. When RHEEDE speaks of the Sago produced from the TODDA *panna*, of which bread is made, he evidently confounds some Japanese Palm which produces Sago, with the CYCAS *circinalis*, and has thus, probably, misled others, with regard to the produce of the trunk of the CYCAS.

In Europe, the Catholics employ the leaves of the PHŒNIX *dactylifera* † on their Palm Sundays and other festival days, as do the Jews on the feast of the Passover. Those Malabars who profess to be converted to Christianity by St. Thomas, and who are thus called Thomæans, RHEEDE tells us, adorn their temples on festival days with the leaves of the CYCAS *circinalis*, because they do not soon fade; and on this account the Portuguese call them *Palma de' Igreria* or *Armatoria das Igrerias*. At Rouen, on Palm Sunday, I have seen the leaves of the same plant carried in procession, and which had been procured from the Botanic Garden there.

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* Dr. HAMILTON, indeed, considers the SAGUS *genuina* of RUMPHIUS (the S. *inermis* of ROXB. Hort. Ben. and S. *Rumphii* of WILLD.) to be the tree which yields the best Sago, and the S. *farinifera* of LAMARCK, the worst of all the four or five kinds described in the Herbarium Amboynense.

† The *Date Palm*, which in all probability afforded the *Palm leaves* that were strewed on the ground, to welcome our Saviour's entrance at Jerusalem. This plant is cultivated at the Isles d'Hyères, San Remo, Nice, Genoa, &c. and more especially at Bordighiera, a small place of the Sardinian States, in the territory of Genoa, where it constitutes a very important article of commerce, in the exportation of the leaves. They are sold in the spring, for Palm Sunday, and in the autumn, for the Passover of the Jews. Several vessels quit Bordighiera with this singular freight, and some go so far as Holland, where great quantities of the Palm leaves are bought by the Jews.

The natural family to which this plant should belong has engaged the attention of various Botanists; it has even been questioned in which of the three great classes of the vegetable kingdom, the *Monocotyledones*, the *Dicotyledones*, or the *Acotyledones*, it should be placed. LINNÆUS ranked it among the Palms, but at the same time, justly observed *"Foliatio circinalis more Filicum peragitur;"* JUSSIEU and VENTENAT, along with the Ferns; JACQUIN, in an artificial system, considered it to belong to the Class DIŒCIA, and Order POLYANDRIA; SMITH looked upon it, along with ZAMIA, as constituting an intermediate Order between the PALMÆ and the FILICES. In PERSOON'S Synopsis, the Natural Order CYCADEÆ is established; and the place of it suggested, corresponding with the ideas just mentioned of Sir JAMES SMITH. Our learned countryman, Mr. BROWN, in his inestimable Prodromus Floræ Novæ Hollandiæ, has placed the Order the last of the *Monocotyledones*, immediately before the *Dicotyledones;* calling the embryo, indeed, *pseudo-dicotyledoneus*. The true structure of this *embryo*, is now completely ascertained by the labours of DU PETIT THOUARS, and the late admirable RICHARD; and this latter has determined it to have the closest affinity with the *Dicotyledonous* plants; and amongst them, with the CONIFERÆ, near which he consequently places the Order. Here, however, it must be acknowledged that the natural habit and aspect of the vegetation, are sacrificed to minute differences in the fructification. In the structure of the stem, in the mode of growth, in the situation and appearance of the leaves, the CYCAS has the closest affinity with the *Palms*, and is in these particulars as far removed as can be from the *Pines*.

On the peculiar structure of the flowers, especially the female ones, of CYCAS, RICHARD, has written fully in the *Mémoires sur les Conifères et les Cycadées;* and Mr. BROWN, in the Botanical Appendix to the "Narrative of a Survey of the Coast of Australia," p. 554. To them I must refer my readers for valuable information on that head. Those disquisitions are too long to be here introduced, and too important to be injured by curtailment. They are slightly noticed in the above description of the female flower.

I may here point out some differences which will be found to exist between the figures in the splendid work of M. Richard, and those here given. There, at tab. 24, the stems, as in Rheede's figures, are very strongly annulated; more so, as Dr. Hamilton remarks regarding the latter, than he ever observed on the growing plant; and which have, probably, that gentleman thinks, prevented Dr. Roxburgh from quoting them in his Hortus Benghalensis. The male amentum too, at fig. A., is more pedunculated than in our plant, and the scales of it far more closely imbricated. Again, their scales, represented of the natural size, at tab. 25, are more elongated at the base, and very much less so at the extremity. At tab. 26. fig. D. the *true fruit* of Richard, (f. 5.) which corresponds with what I call the *seed*, is represented, as more than half immersed in a fungous substance. This I did not find to exist in the only individual I examined, but which was in a state of great perfection. Immediately within the subosseous covering, was the brown membranous integument enveloping the albumen: the *albumen, (nucleus* of Richard), fig. D, E, is far broader at the base than in my specimen, and the embryo, occupies a much greater portion of it. This embryo, too, f. F, G, has the cotyledons united for the greater part of the length; whereas, I found them, though closely applied, unquestionably divided for their whole length, and easily separated without causing the slightest rupture, as far as the *plumule*, which, in my specimen, was formed of two lobes; in Richard's figure H, f. 2, of one.

Tab. 2826. 1. Cycas *circinalis*, Male Flowering Plant, reduced to about $\frac{1}{12}$ of the Size of the Plant of the Edinburgh Botanic Garden. 2. Male Amentum.—*Natural size*. 3. Upper Side of a Scale of the Male Amentum. 4. Under Side of Ditto.—*Natural size*. 5, 6, 7. Anther. 8. Pollen.—*Magnified*. 9. Small Pinna from a Leaf.—*Natural size*.

Tab. 2827. 1. Female Spadix (copied from Richard). 2. Single Female Flower.—*Magnified*; also copied from Richard. The letters are referred to in the description above given of that part. 3. Fruit.—*Natural size*. 4. Partial Section of Ditto, the Pulpy Coat being removed from the upper part. 5. Section of the Albumen, showing the Insertion of the Embryo, a portion of the membranous covering above described remaining at *a*. 6. Embryo, with its filamentous Stalk drawn out. 7. Portion of the Embryo; one Lobe of the Cotyledons, 8, being removed to shew the Plumule.—*Magnified*.

2828.

W. J. H. del.t Pub. by S. Curtis, Walworth June 1 1828

SOLANUM BALBISII; *var.* PURPUREA. BALBIS' NIGHTSHADE; PURPLE-FLOWERED *var.*

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SOLANACEÆ.)

Generic Character.

Cal. monophyllus, persistens. *Cor.* monopetala, rotata. *Antheræ* oblongæ, apice poris duobus dehiscentes. *Bacca* bi- tri-quadrilocularis.

Specific Character and Synonyms.

SOLANUM *Balbisii;* caule fruticoso hirsuto aculeato, foliis pinnatifidis, laciniis acutis sinuato-dentatis, racemis (florum) cymosis lateralibus terminalibusque.

(α.) floribus albis.

SOLANUM Balbisii. *Dunal Solan. p.* 232. *t.* 3. *f.* D. *Roem et Schultes Syst. Veget. v.* 4. *p.* 656. *Spreng. Syst. Veget. v.* 1. *p.* 687. *Bot. Mag. t.* 2668.

SOLANUM decurrens. *Balb. Icones et Descr. fasc.* 1. *p.* 17. *t.* 1.

SOLANUM sisymbrifolium. *Encycl. Bot. v.* 4. *p.* 307.

SOLANUM inflatum. *Hornem. Hort. Hafn. v.* 1. *p.* 221.

SOLANUM viscosum. *Lagasca Gen. et Sp. p.* 10. *n.* 145.

SOLANUM brancæfolium. *Jacq. Eclog. p.* 14. *t.* 7.

(β.) floribus purpureis.

DESCR. Somewhat shrubby, two to three feet high, and branched; stem, leaves, peduncle, and calyx pubescenti-hirsute, glandular, and armed with numerous, deep orange-coloured aculei, from one or two lines, to three-fourths of an inch long. *Leaves* on long petioles, narrow, ovate in their circumscription, deeply pinnatifid, the segments sinuato-lobate: their aculei arise from the mid-rib and principal nerves. *Racemes* cauline, four to six inches long, bearing very large flowers, which are subcymose, and which, in fruit, are much elongated. *Calyx* 5-fid, small, afterwards becoming, as well as its aculei, vastly enlarged, and persisting with the fruit. *Corolla* rotate, beautiful bluish purple. *Stamens* five, equal, free; *anthers* yellow. *Germen* globular: *style* short, stigma capitate. *Fruit* globose, as large as a cherry, yellow-brown, orange when ripe, surrounded by the enlarged and somewhat inflated calyx: two-celled, with three fleshy receptacles in each cell, to which are attached numerous reniform, margined seeds.

This highly beautiful variety of SOLANUM *Balbisii*, has been raised from Brazilian seeds, by ROBERT BARCLAY, Esq. at Bury Hill, where the accompanying drawing was made in November of last year. The fruit is no less singular than the flowers are shewy, for it is large, and covered with the enlarged calyx, and its richly-coloured aculei: so that the plant is highly deserving a place in every stove. I may observe, that there is, in Mr. BARCLAY'S collection, also raised from Brazilian seeds, a third variety of this species, having pale blue flowers, and shorter and paler coloured aculei.

Fig. 1. Stamens. *Magnified.* 2. Fruit, with its persistent, and enlarged Calyx.—*Natural size.*

2829.

W. J. H. delt.

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(2829)

FRANCISCEA HOPEANA. SHORT-FLOWERED FRANCISCEA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. persistens, inflatus, campanulatus, quinquedentatus: dentibus æqualibus. *Corolla* hypocrateriformis; *limbus* quinquepartitus, subæqualis; lobis rotundatis, repandis, margine incumbentibus, tubo apice inflato incurvato. *Stylus* apice incrassatus. *Stigma* bilobum. *Capsula* ovata, bilocularis, bivalvis, valvulis impartibilibus. *Pohl.*

Specific Character.

FRANCISCEA *Hopeana;* foliis oblongo-lanceolatis glaberrimis, floribus (plerumque) solitariis ramis brevibus foliosis terminalibus, corollæ tubo calyce campanulato panlulum breviore.

DESCR. This plant has at present only become a small branching shrub in the stove, eight to ten inches high. *Branches* generally short and spreading. *Leaves* rather numerous, alternate, between membranaceous and coriaceous, oblongo-lanceolate, rather acute, quite entire, dark green, paler beneath, obscurely nerved, petiolated; petioles short. *Flowers* very fragrant in the living specimens, solitary; in our dried native ones frequently two together, terminating short leafy branches. *Stipules,* none, or so deciduous, as, in the specimen we have examined, entirely to have disappeared. *Calyx* campanulate, below tubular, with five equal acute teeth. " *Corolla* with the tube, much narrower than the calyx, curved, pale; *limb* of five spreading, rounded, waved, purple lobes, the mouth yellow at the lower margin. *Stamens* four, didynamous; *filaments*, subulate, purple, decurrent: *Anthers* transverse, one celled, glabrous, upon a thickened apex of the filament. *Pistil*: *Germen* ovate, two celled, situated within a fleshy ring; *cells* having many seeds attached to a rounded, central receptacle: *Style* filiform, thickened, compressed; the epidermis corrugated, especially upwards: *Stigma* (not bifid) gaping; with a green, viscid, fungous substance at the mouth for retaining the pollen." *Lindley MSS.*

Seven species of this genus have been figured, and described by Dr. Pohl, in his splendid "Plantarum Brasiliæ Icones et Descriptiones hactenus ineditæ;" which genus, that author has dedicated to the Emperor of Austria, Francis the First. Yet, of those seven species, not one can be said so entirely to accord with the present, as to enable me to satisfy myself, that it is there described. Either the individuals of the genus, therefore, are liable to much variation, or ours must be reckoned a new species. It differs remarkably from all, particularly from the few flowered kinds, by the shortness of the tube of the corolla. And that, in this respect, the plant is not liable to vary much, we may conjecture from the circumstance, of the wild specimen I have received from Wm. Swainson, Esq., gathered by him at Pernambuco in Brazil, being exactly the same. The F. *uniflora* of Pohl comes, perhaps, the nearest to it; but, that I possess from Dr. Martius, and the tube of the corolla is at least twice as long as in our plant, and the leaves are more inclined to obovate.

The specimen from which the accompanying figure was taken, flowered in the stove of Robert Barclay, Esq., at Bury Hill. It was first sent from Brazil, by Marshal Beresford, to his sister Mrs. Thomas Hope, of Deepden, Surry, who has thus been the means of introducing to our stoves a most interesting and desirable plant; for not only are the flowers of a rich purple-blue colour, but they are excessively fragrant.

Mr. Lindley had already made some sketches and notes upon this plant, which he very kindly communicated to me; and of which I have availed myself in the above description.

Fig. 1. Calyx. 2. Portion of the Corolla with the Stamens. 3. Pistil. 4. Stigma and the upper part of the Style. 5. Section of the Germen.—*Magnified.*

W. J. H. del.

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OXALIS ROSEA, α. ROSE-COLOURED OXALIS.

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Class and Order.

DECANDRIA PENTAGYNIA.

(Nat. Ord.—OXALIDEÆ.)

Generic Character.

Cal. 5-sepalus, sepalis liberis aut basi coalitis. *Pet.* 5. *Stam.* 10, filamentis basi breviter monadelphis, alternis brevioribus. *Capsula* pentagona, oblonga aut cylindracea.

Specific Character and Synonyms.

OXALIS *rosea;* caule erecto ramoso, pedunculis axillaribus longissimis apice corymboso-racemosis, foliolis obcordatis.

(α.) floribus majoribus petalis lineatis roseis apice crenatis.

OXALIS rosea. *Jacq. Oxal. n.* 5. *p.* 25. *De Cand. Syst. Veget. v.* 1. *p.* 693.

OXALIS floribunda. "*Lehmann. in Litt.*" *Bot. Reg. t.* 1123.

OXALIS racemosa. *Lam. Dict. v.* 4. *p.* 684.

OXYS *roseo flore* erectior, vulgò Cullé, *p.* 733. *t.* 23.

(β.) floribus minoribus, petalis vix lineatis rubris apice integerrimis.

OXALIS rosea. *Sims in Bot. Mag. t.* 2415.

DESCR. *Stem* herbaceous, erect, much branched, terete, glabrous, subpellucid, leafy. *Leaves* ternate; leaflets obcordate, minutely hairy, sessile upon the common peduncle, which is about an inch long, swollen at the base. *Peduncles* numerous, four to five inches long, glabrous, swollen at the base, at the extremity bearing two, forked, few-flowered racemes, with a solitary pedicellated flower in the axil. *Pedicels,* at first drooping, in flower erect, in fruit refracted. *Calyx* of five, ovate, acute leaflets, bearing two

yellow, oblong glands at the points. *Corolla* large, showy. *Petals* obcordato-cuneate, somewhat clawed, the base white, the rest rose-coloured, marked with darker lines, the extremity crenate. *Stamens* ten, inserted upon a five-toothed, deep, cup-shaped, white, fleshy nectary: the five longer filaments within the teeth; the five shorter ones situated in the sinuses of the teeth. *Anther* roundish, yellow. *Styles* hairy; *Stigmas* capitate, glandulous.

Raised from seeds sent by our friend A. CRUICKSHANKS, from Valparaiso. It is one of the handsomest, if not the very handsomest of this beautiful Genus, rising to a height of a foot, or a foot and a half, and covered with the fine rose-coloured blossoms, which it bears for very many weeks in succession. We have hitherto, in the Glasgow Botanic Garden, kept it in a cool part of the stove, where it promises to ripen its seeds well. The flowering season with us has been March and April.

It is assuredly the O. *floribunda* of LEHMANN and LINDLEY. The OXALIS *rosea*, with small red, scarcely lined flowers figured at p. 2415 of the Botanical Magazine, may, probably, be a distinct species. Ours is surely the "OXYS *roseo flore, erectior*, vulgo *Cullé*," which comes from the same country, "moist humid places in the kingdom of Chili, in the thirty-seventh degree of South latitude." The Indians there make use of it mixed with other plants as a dye.

Fig. 1. Petal. 2. Flower deprived of the Petals. 3. Stamens enclosing the Pistil. 4. Portion of the nectary with Stamens.—*Magnified.*

2831.

W J H delt

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(2831)

ENCYCLIA VIRIDIFLORA. GREEN-FLOWERED ENCYCLIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium rectum, subconnivens, laciniis subæqualibus. *Columna* libera, aptera, labello trilobo ecalcarato arcte circumvoluta. *Anthera* terminalis, 4-locularis. *Massæ pollinis* 4, per pares filo elastico in ipsis reflexo connexæ.

Specific Name.

ENCYCLIA *viridiflora.*

DESCR. The base of the plant is occupied by a roundish *bulb,* larger than a nutmeg, around which is the sheathing scariose base of an old leaf. From the top of this bulb spring two, linear-lanceolate, carinate, stiff and rigid, somewhat coriaceous *leaves.* *Scape* nearly a foot high at the extremity, branching into a panicle, each branch spreading, bearing six or eight flowers; which, from the circumstance of the germen not being twisted, are considered to be in their natural, though not usual position; the back of the labellum being uppermost. *Perianth* or *petals* of five, nearly equal, lanceolate, green, scarcely striated segments, the two uppermost standing a little on each side the labellum, somewhat falcate; the three lower patenti-incurved, at length, in age, reflexed. *Labellum* oblong, greenish-brown, with red streaks, and a red margin, the sides remarkably convolute, so as to embrace and conceal the column, at the extremity three-lobed; lobes nearly equal, short; the middle one much waved at the margin: at the base within, is a large, fleshy, oblong gland, or tubercle, grooved in the middle, white, with red lines. *Column* much shorter than the labellum, semiterete, greenish and white; its plane side beautifully streaked and dotted with red. *Stigma* large, concave, with a triangular projecting lip above it. *Anther* terminal, deep purple, fixed by its back, four celled, containing four deep-yellow, plano-convex, waxy *pollen-masses,* joined in pairs by means of the stalks, which are pressed against the edges of the pollen-masses, in the same way the radicle of the embryo of many cruciferous plants is turned up and pressed against the cotyledons. *Germen* resembling a pedicel, club-shaped, streaked and purplish upwards.

From the collection of Mrs. ARNOLD HARRISON, of Aigburgh, near Liverpool, where it flowered in the stove, in the month of February, 1828. It was introduced into the garden of that lady by her brother, WILLIAM HARRISON, Esq., of Rio, who gathered it in the neighbourhood of that place.

It would appear unnatural to arrange this singular Orchideous plant along with the splendid species of CATTLEYA: yet, in point of essential character, it is very closely allied to it, and like it, unquestionably belongs to Mr. LINDLEY'S tribe of EPIDENDREÆ. I have, however averse to multiplying the Genera, already so much increased, of this family, felt myself under the necessity of giving a new name to this plant, which I have derived from the circumstance of the column of fructification being inclosed in, or wrapped round by, the *labellum**. It is not, however, in this particular that it differs from CATTLEYA; but, simply, in the decidedly straight, not resupinate flower, in the less patent petals, and in its very different habit.

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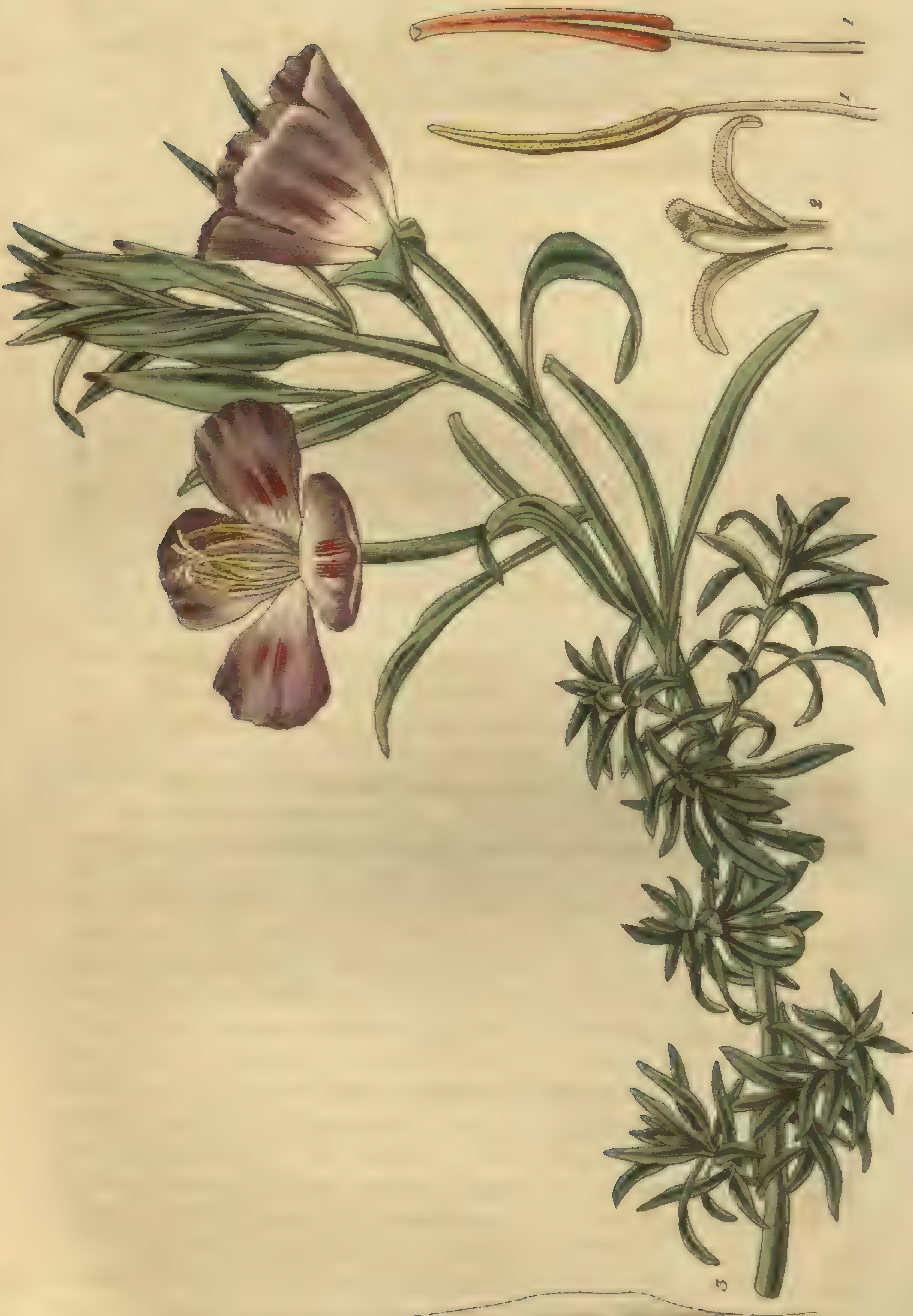
* Encyclia, from εγκυκλέω, circumvolvo.

Fig. 1. Flower. 2. Labellum inclosing the Column, in their natural position. 3. Front view of the Labellum. 4. Column. 5. Underside of the Anther-case. 6. Pollen Masses, more or less *magnified.*



W. J. H. del.

Pub. by S. Curtis, Walworth June 1. 1828

Swan Sc.

ŒNOTHERA LINDLEYII. LARGE-FLOWERED, FOUR-SPOTTED ŒNOTHERA.

****

Class and Order

OCTANDRIA MONOGYNIA.

(Nat. Ord.—ONAGRARIÆ.)

Generic Character.

Cal. 4-fidus, tubulosus. *Petala* 4, calyci inserta. *Capsula* 4-locularis, 4-valvis, infera. *Semina* comosa.

Specific Character and Synonyms.

ŒNOTHERA *Lindleyii;* caule adscendente diffuso, foliis lineari-lanceolatis glabris integerrimis, capsulis teretibus elongatis acutis foliis longioribus, petalis discoloribus integris. *Douglas.*

ŒNOTHERA Lindleyii. *Douglas, MSS.*

DESCR. *Stem* ascending, numerously branched with flexile twiggy branches. *Leaves* alternate, linear - lanceolate, entire, glabrous, on short footstalks. *Flowers* axillary, sessile. Segment of the *calyx* twice as short as the petals. *Petals* of the corolla broadly obovate, entire, of a delicate lilac colour, with a purple spot in the centre of each. *Filaments* of the *stamens* unequal, four long and four short. *Anthers* linear-oblong, yellow. *Stigma* deeply four lobed, pale yellow. *Capsule* sessile, linear, an inch and a half long, cylindrical, destitute of furrows, and glabrous.

The present handsome species of ŒNOTHERA is allied to Œ. *Romanzovii,* Œ. *purpurea,* Œ. *quadrivulnera,* and Œ. *tenella,* from all which it is manifestly distinguished by the greater length of the capsule. Its nearest affinity is with the last mentioned, but it is a far more robust and yet procumbent or ascendant plant. In the spotting of the petals there is moreover an approach to Œ. *quadrivulnera,* but here the flowers are much larger, quite entire at the margin, and the capsule is terete or cylindrical, not furrowed. It is a hardy annual, a foot or eighteen inches in the length of the stems, flowering in the open border, from June till it is destroyed by the frosts; hence it is a most desirable inmate of the garden. *Douglas.*

Introduced by the Horticultural Society from the North-West Coast of America, where it was found in 1826, in the dry, woodless part of the interior, by that zealous collector and traveller, Mr. DAVID DOUGLAS, who is engaged in preparing the narrative of his interesting journey and a description of his discoveries, for publication. It has been his wish that it should bear the name of JOHN LINDLEY, Esq. F.R.S.*, and I am happy in the opportunity of thus laying it before the public.

The drawing was made at the Horticultural Society's garden, Chiswick, in October, 1826, and Mr. DOUGLAS himself has been so good as to communicate to me his description.

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* Recently appointed Botanical Professor in the London University.

Fig. 1. Stamens. 2. Stigma.—*Magnified.* 3. Leaf from the lower part of the stem.—*Nat. size.*

2833.

W. J. H. del. Pub by S. Curtis, Walworth, July 1 1828 Swan Sc.

ARTOCARPUS INTEGRIFOLIA. JACK TREE, OR ENTIRE-LEAVED BREAD FRUIT.

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Class and Order.

MONŒCIA MONANDRIA.

(Nat. Ord.—URTICEÆ.)

Generic Character.

Flores amentacei. MASC. *Perianthium* simplex, di- triphyllum. *Filamentum* longitudinæ perianthii. FÆM. *Perianthium* monophyllum, ore contracto. *Bacca* composita.

Specific Character and Synonyms.

ARTOCARPUS *integrifolia;* foliis obovato-oblongis glabris subtus scabris, junioribus non raro trilobis, floribus e ramulis propriis caulis.

ARTOCARPUS integrifolia. *Linn. Suppl. p.* 412. *Willd. Sp. Pl. v.* 4. *p.* 189. *Roxb. Pl. Corom. v.* 3. *p.* 46. *t.* 250. *Spreng. Syst. Veget. v.* 3. *p.* 804. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 231.

ARTOCARPUS. *Jacq. Lam. Encycl. v.* 3. *p.* 209. *Illustr. t.* 745.

ARTOCARPUS heterophylla. *Lam Encycl. v.* 3. *p.* 209.

RADEMACHIA integra. " *Thunb. Act. Holm. v.* 36. *p.* 252."

POLYPHEMA JACA. *Loureiro Fl. Cochin. p.* 346.

SITODIUM cauliflorum. *Gærtn. Fruct. v.* 1. *p.* 345. *t.* 71. *et* 72.

TSJACA-MARUM. *Rheede Hort. Mal. v.* 3. *p.* 17. *t.* 26, 27, 28.

SOCCUS *arboreus,* major et minor. *Rumph. Amb. v.* 1. *p.* 104. *t.* 30 *et* 31.

DESCR. This forms a good-sized tree in the West Indies, reaching to the height of thirty feet, with a diameter of eleven or twelve inches: but in the East Indies, ROXBURGH assures us, the circumference of the trunk is from eight to twelve feet, covered with dark-coloured, deeply-cracked bark. Every part of the tree yields a copious milky juice when wounded. *Branches* numerous, spreading in every direction, and forming so large a top, and so thickly clothed

with leaves, that **Bory de St. Vincent** informs us, they do not leave the smallest passage for the rays of the sun. *Leaves* four to six inches long, bursting from a pair of large, deciduous stipules, varying much in different parts of the plant: those of the fertile branchlets are such as are here represented, nearly obovate and entire: those from the higher branches are more obovate and oblong: whilst those produced by the young shoots from the root are often very narrow, or cut into two or three oblong lobes, making an approach, as Mr. **Guilding** observes, to the leaves of **Artocarpus** *incisa*. All of them are of a thickish, somewhat coriaceous texture, smooth above, rough with minute hairs beneath, somewhat obtuse at the point, at the base attenuated into a short footstalk.

The flowers, both male and female, are produced not only on the same plant, but, generally, on the same peculiar branchlet, springing from the trunk of the tree, or some of its main branches. The *male* mostly appear laterally, the *female* solitary and terminal.

Male Flowers exceedingly densely crowded on the outside of a large, fleshy, pedunculated, central receptacle, so as to constitute an *amentum*, very minute; consisting each of a single stamen, having a flattened, white filament, and a two-lobed, yellow *anther*, included within a two, more rarely a three-leaved, single *perianth*, of which the leaflets or scales are oblong-obtuse, downy at the top, about equal in length with the stamen. A transverse section shews these beautifully radiating from the circumference of the spongy centre. This *amentum* is at first covered (and frequently accompanied by a leaf) with the stipules, which thus seem to act the part of a *spatha*.

Female flowers equally surrounding a large, fleshy receptacle, much crowded, so as to form an oblong, tuberculated mass of *flowers;* each of which consists simply of an oblong, tubular perianth, green, contracted at the mouth, which surrounds the pistil in the same manner as the urceolate perianth of the Genus **Carex**: convex, and generally hexangular at the top. Within is seen, at the base, the small ovate germen, bearing from its side the white style, whose simple, clavate, curved *stigma* passes through the aperture of the perianth. In advancing to maturity, this *amentum*, or *spadix*, as it might be called, swells in every direction, and becomes a muricate or papillose, compound, fleshy, oblong *fruit*, of a yellowish colour, and of most enormous size, often exceeding seventy or eighty pounds in weight, and of a structure that deserves more particular consider-

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Pub. by S. Curtis, Walworth, July 1.1828.

ation. On viewing a section, made transversely, we observe in the centre, the soft, fleshy receptacle, and surrounding this, and radiating towards the circumference, we find two bodies: the one very numerous, narrow, long, and stringy, or having a fibrous texture, conical and angular at the top, and terminated by the stigma: these are abortive florets: the enlarged perianths having the imperfect germen at the base (t. 2834, f. 1.). Imbedded among these are large, fleshy, brownish-yellow bodies, two or three inches long, almost elliptical, with an acuminated point: these are the fertile *perianths,* prodigiously enlarged in size and in thickness, and constituting, indeed, the eatable part of the fruit. The transverse section, just alluded to, has cut through several of these partial coverings to the fruit, and exhibits to us the real oval fruit itself in the inside, which, in the state of the germen, only occupied the base of the perianth, but which now reaches to the centre. *Pericarp,* a thin, brown membrane, soon bursting, easily separating from the seed, and bearing the withered style, still attached to it. *Seed* large, oblongo-oval, attached by the centre of one side, which is more flattened than the other; pale brown: this has a double integument; on removing the outer one, a brown, inner coat appears, and the *radicle* at the top becomes visible: on separating this, the *embryo,* (t. 2834, f. 14.) destitute of albumen, comes in sight, and the two very unequal *cotyledons* are distinctly seen.

This highly interesting and (in our gardens) rare plant, having flowered in December of last year, (1827) in the stove of the Edinburgh Botanic Garden; and having besides received a splendid series of drawings of the fruit, as well as flower, made from the living plants in St. Vincent, by my often-mentioned friend, the Rev. L. GUILDING, I gladly embrace the opportunity which is thus afforded me, of publishing its figure and description in the Botanical Magazine.

It is a native of very many parts of the continent, and of the islands in the East Indies, especially the Molucca Islands, and, according to ROXBURGH, is cultivated very generally through the warmer regions of Asia, on account of the use that is made of its fruit and seeds. This curiously muricated fruit, which appears to vary considerably in shape, as to its comparative length and breadth, Mr. GUILDING reckons among the largest that is known; often weighing, as we have already stated, seventy or eighty pounds. The fleshy part of the fruit is eaten in the East Indies; but authors vary in opinion in regard to the quality of it; yet all allow that it is difficult of digestion. Mr. MARSDEN says, it is of a rich, and, to strangers, too strong a smell and flavour, but which gains upon the palate. In the West Indies, "it has a strong, sweetish, and, to some persons, offensive smell, and is but seldom eaten; and when rotting under the tree, the odour is highly disgusting: in this state affording support to hundreds of *Curculionideæ, Staphylinideæ, Forficulæ, &c.*" (GUILDING MSS.) The *seeds*, however, are allowed by all to be good, and even when roasted, to have the taste of chesnuts. In Amboyna, the bats greedily devour this fruit, and, passing the seeds entire, thus aid the more extended propagation of the plant. In Ceylon, where the tree grows most plentifully, and where it attains the greatest size and perfection, it forms a considerable part of the diet of the natives, at particular times of the year. The unripe fruit is also used pickled, or cut into slices and boiled, or fried in Palm oil. The wood itself is like mahogany in colour, when it has been for some time exposed to the air: and in some parts of India, is on that account employed to make furniture of. It is more commonly employed in building houses, for which it is well suited. From the juice or milk, a very viscid bird-lime is made.

The tree seems naturalized in the West Indies, particularly in the island of St. Vincent. It was probably introduced there by the late Dr. ANDERSON, and constitutes one of the peculiar features of its Botanic Garden. Mr. GUILDING says, in his interesting account of that establishment, "Assembled together are the various fruits transplanted from the islands of Asia and other distant lands, or the nations of the Antilles, attracting by their nectared flowers, the gaudy humming birds. You behold the Bread Fruit (ARTOCARPUS *incisa*) of the Friendly Islands, the most precious gift of Pomona, and the Jack of India (ARTOCARPUS *integrifolia*) bearing its ponderous fruit of sixty or seventy pounds, on the trunk and arms—huge deformities for the lap of Flora."

The Flowers have a sweet smell, and are produced, in the tropics, in the months of January and February. The fruit ripens in August and September.

We see no reason for making two species of this plant as LAMARCK has done; for it is very certain, that, as far as leaves are concerned, the two kinds, with entire and cut leaves, are found on the same plant. The different quality and flavour of the fruit described by authors, probably depend upon cultivation.

Into England, the *Jack Tree* was introduced in 1778, by Sir EDWARD HUGHES, K. B.

TAB. 2833. Fig. 1. Small Branch of the *Jack Tree*, with a Male and Female Amentum, and the two Bracteæ, enclosing another Male Amentum or Spadix: reduced to one-third of the natural size. 2. Male Amentum, *natural size*. 3. Ripe Fruit, very much diminished.

TAB. 2834. Fig. 4. Male Flower, or Stamen, with its two-leaved Perianth. 5. Female Flower, or Pistil, enclosed within its monophyllous Perianth. 6. Germen and part of the Style. 7. Portion of the Ripe Fruit, less than the natural size. 8. Abortive Female Flowers: one of them cut open below, to shew the Pistil within. 9. Ripe Fruit, *natural size*, surrounded by the enlarged, soft, fleshy Perianth. 10. The same cut open to shew the Fruit within, the Pericarp already beginning to burst and shew the seed within. 11. Seed. 12. The same deprived of its Outer Coat. 13. Section of the same. 14. Embryo, taken entire from the Seed.—Fig. 4, 6, and 7 only, *magnified*.

2835.

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W J H del

Pub. by S. Curtis, Walworth, July 1. 1828

DRACÆNA AUSTRALIS. WHITE-FLOWERED, NEW ZEALAND DRACÆNA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—ASPHODELEÆ.)

Generic Character.

Cor. 6-partita. *Filamenta* medio incrassata, corollæ inserta. *Stigma* trifidum. *Bacca* 3-locularis, loculis 2-(poly)spermis. *Spreng.*

Specific Character and Synonyms.

DRACÆNA *australis;* arborea, foliis lanceolatis acutis muticis confertis planis basi dilatatis, superioribus erectis, paniculam compositam congestam æquantibus.

DRACÆNA australis. *"Foster Prodr. n.* 151." *Willd. Sp. Pl. v.* 2. *p.* 156. *Spreng. Syst. Veget. v.* 2. *p.* 92.

DRACÆNA obtecta. *Graham in Jameson's Edin. New. Phil. Journ.* 1827, *p.* 175.

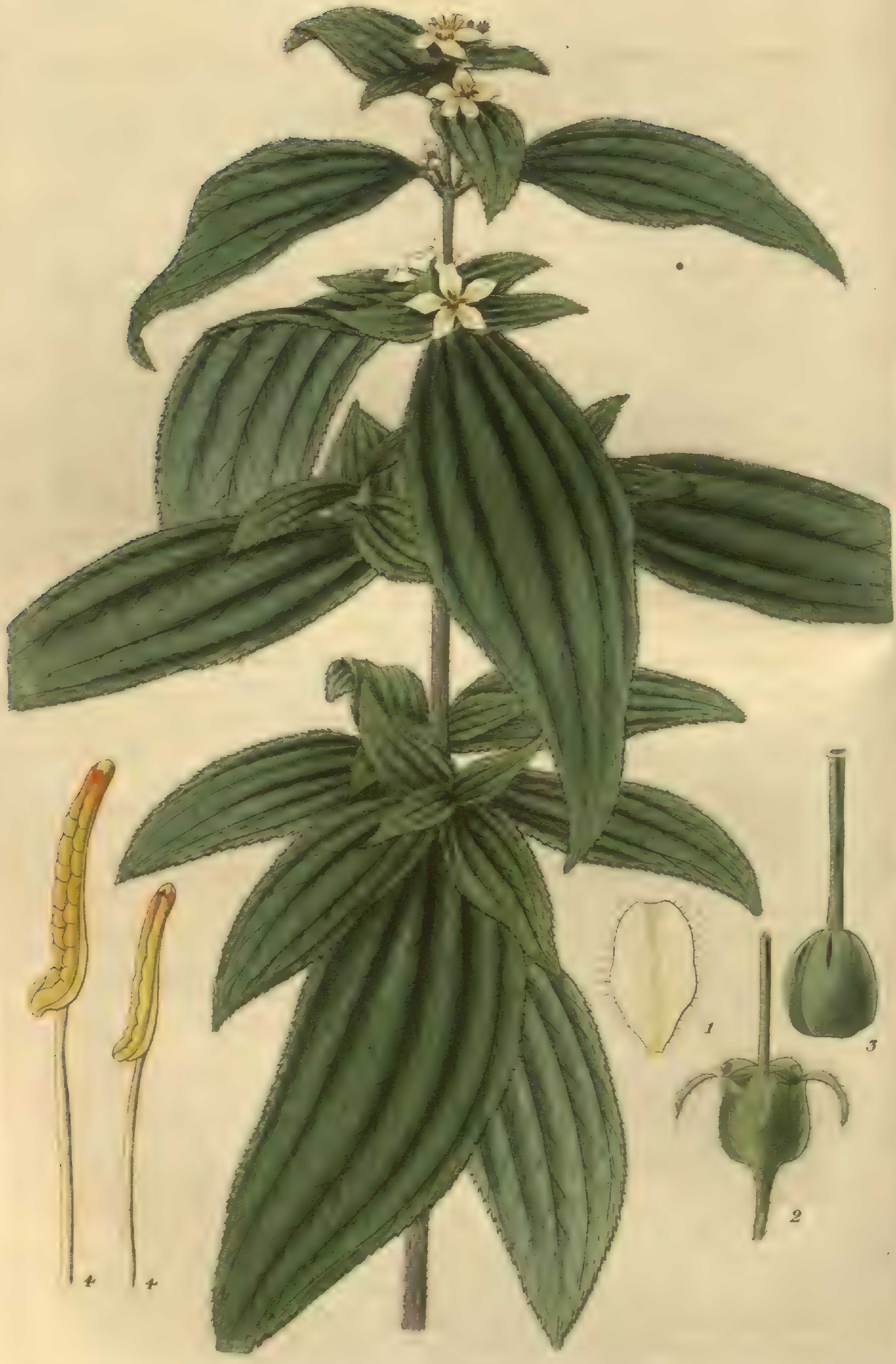
DESCR. *Stem* round, scarred by the separation of the leaves, twelve feet high. *Leaves* crowded at the top (and they would probably have remained on a great part of the stem, had they not been cut off for want of room), lanceolate, acuminate, but without mucro, attenuated below, and then, at the very base dilated amplexicaul, thickened along the middle; *nerves* numerous, slender, parallel. A large *bud* is formed in the axil of each leaf; but it proves abortive, except near the top, and at the period of flowering, when several offsets split the leaves, in the axils of which they spring, and, pushing through, appear on the lower side. *Panicle* terminal, large, crowded, compound, scarcely exceeding in height the tip of the upper leaves. *Bracteæ* situated at the origin of each branch of the panicle, resembling leaves in miniature, quite entire, gradually becoming smaller upwards on the panicle, at the lower branches of which there are two, one large, below the branch, the other much smaller, and above it. *Flowers* sessile, numerous, scattered, and highly perfumed. *Corolla* six-parted, revolute, afterwards approaching by the apices of the segments and withering. *Filaments* subulate, at length revolute: *Anthers* small, green: *Pollen* yellow. *Germen* ovate, green, trilocular: *Style* somewhat tapering upwards to the three-cleft stigma. Every part of the flower, except the germen and anther, fine white. GRAHAM *in Jameson's Journ.*

Since the above was printed in the Edinburgh Journal, this plant has produced abundance of fruit, which Dr. GRAHAM has been so obliging as to send to me. It consists of white, fleshy, nearly orbicular *berries*, about the size of peas; having at the base the withered corolla, and at the extremity the faded style. The top of the berry is marked with three rays or short furrows, indicating the three cells which exist within: and these are crowded with angular, shining, deep-black seeds, fixed to a receptacle in the central axis. At the base, or point of attachment, is a white appendage or *strophiolus*.

The plant, from which the accompanying figure is taken, flowered in May, 1827, in the greenhouse of the Edinburgh Botanic Garden, having been raised from seeds sent by Mr. FRASER of New Holland; but without any name or statement of the particular country from which it was obtained. Upon referring to my Herbarium, I find specimens of the same plant derived from the same source, marked "DRACÆNA *australis*." The characters of the plant are by no means at variance with those (short and imperfect it must be allowed) which we possess; and hence I have retained the older name.

In the numerous seeds contained in each cell, it departs from the Genus DRACENA; and, in that particular, agrees with CORDYLINA of COMMERSON and BROWN, and with CHARLWOODIA of SWEET, in his Flora Australasica. From the former again it differs in the persistent (not deciduous) perianth or corolla, having equal segments, and all equally revolute.

Fig. 1. DRACÆNA *australis*, much diminished. 2. Leaf still upon a very reduced scale. 3. Part of a Panicle in Flower, *natural size*. 4. Flower and Bracteæ. 5. Portion of the Corolla with its Stamens. 6. Pistil. 7. Fruit. 8. Vertical Section of the Berry. 9. Transverse Section of ditto. 10. Seed. 11. Section of ditto.—More or less *magnified*.



W. J. H. delt

Pub. by S. Curtis, Walworth July 1. 1828.

Swan sc.

CHÆTOGASTRA LANCEOLATA. LANCE-LEAVED CHÆTOGASTRA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—MELASTOMEÆ.)

Generic Character.

Cal. tubus turbinatus pilosus aut squamosus; lobi 5-persistentes. *Pet.* 5-obovata. *Stam.* filamenta glabra; *antheræ* 10, oblongæ, consimiles, 1-porosæ, connect. basi producto nunc in calcar simplex aut bifidum, nunc in tubercula 2 obtusa interdum minima. *Ovar.* liberum apice setosum et sæpe denticulatum. *Caps.* 5-locul. *Sem.* cochleata. *D. C.*

Specific Character and Synonyms.

CHÆTOGASTRA *lanceolata*; annua, pilosa, caule subtetragono, foliis lato-lanceolatis serrulatis quinquenerviis breviter petiolatis, pedunculis trichotomis, calycis segmentis linearibus reflexis, petalis acutis (albis) ciliatis.

CHÆTOGASTRA lanceolata. *De Cand. Prod. v. 3. p.* 131.

RHEXIA lanceolata. *Bonpl. Rhex. t.* 21.

OSBECKIA lanceolata. *Spreng. Syst. Veget. v.* 2. *p.* 312.

RHEXIA flexuosa. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 85. *t.* 320. *f. b.*

DESCR. *Plant* annual, about a foot high; the *stem* obscurely tetragonal, hairy, as is every part of the plant, except the upper and under surface of the corolla, the stamens, and pistil, throwing out short branches from the axils of the leaves. *Leaves* opposite, upon very short petioles, ovato-lanceolate, two to four inches long, serrulate at the margin, five-nerved. *Peduncles* axillary and terminal, short, three-flowered. *Calyx* urceolate in its tube, with ten rather obscure elevated lines, and cut at the margin into five, linear-reflexed, hispid segments. *Corolla* of five petals, each oval, acute, the extreme point generally reflexed, pure white, the margin ciliated; the insertion is upon the margin of the calyx, between the segments. *Stamens* ten, alternate five shorter. *Filaments* white, erect: *Anthers* linear, oblong, yellow, transversely wrinkled, protruded into a didymous spur at the base, the extremity attenuated in a slight degree, brown, and there opening with a large pore. *Pistil: Germen* oval, hid by the persistent calyx, obscurely striated: *Style* straight, erect, filiform, as long as the stamens: *Stigma* obtuse, glandular.

Seeds of this plant were received from Mr. Lockhart, of Trinidad, with many other rarities, in 1827: but the plants raised in the stove promise to be only of annual duration. The blossoms appear in January.

This genus has been recently established by the Professor De Candolle, who observes, that it is to be distinguished from another new Genus, Lasiandra, by its smooth stamina and inflorescence; from Arthrostemma, by the quinary, and not quaternary number of the parts of the flower; from Osbeckia, by the absence of appendages between the lobes of the calyx; and from Melastoma by the fruit being capsular and free. The species are usually shrubs, and all from South America.

Fig. 1. Petal. 2. Calyx and Pistil. 3. Pistil. 4. Stamens.—All more or less *magnified.*

2837.

W J H delt

Pub. by S. Curtis. Walworth. July 1.1828.

(2837)

NICOTIANA GLAUCA. GLAUCOUS-LEAVED TOBACCO.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SOLANEÆ.)

Generic Character.

Cal. tubulosus, 5-fidus. *Cor.* infundibuliformis vel hypocrateriformis, limbo plicato. *Capsula* apice 4-dentata, placentis ad dissepimentum transversis. *Spreng.*

Specific Character.

NICOTIANA *glauca;* caule suffruticoso erecto ramoso, foliis inæqualiter cordato-ovatis acutis obsolete sinuatis nudis glaucis longe petiolatis, paniculis terminalibus, corollæ laciniis acutis brevissimis. *Graham.*
NICOTIANA glauca. *Graham MSS.*

DESCR. *Plant,* probably short-lived. *Stem* erect, round, branched, of great height; native specimens said to be twenty feet high; ours about ten, and still growing freely. *Branches* ascending obliquely. *Leaves* petioled, somewhat unequal at the base, cordato-ovate, obscurely sinuated, acuminate, smooth, soft, naked, veined (five inches long and three broad), mid-rib strong; *petiole* round, spreading, shorter than the leaf (three inches long). *Panicle* terminal, secund, lax; its pedicels arising from the axils of minute, subulate bracteæ, which are often absent. *Calyx* as long as the pedicel, tubular, obscurely angled, with five, sharp, unequal, erect, somewhat ciliated teeth. *Corolla* green in bud, afterwards of an uniform yellow colour, covered with close white and soft pubescence on the outside; *tube* slightly curved downwards, thrice as long as the calyx, within which it is contracted and impressed with five furrows: beyond this it is five-sided, and of a nearly uniform diameter, till near the faux, where it is slightly inflated, and again contracted immediately below the limb; *limb* small, cup-shaped; segments short, acute, erect. *Stamens* unequal; *filaments* slender, incurved from the sides of the corolla at their apices, also approaching each other above their insertion into the corolla at the extremity of the calyx, below this adhering to the tube, in the substance of which they are lost downwards: *Anthers* short, oblong, brown before bursting, on the longer filament subexserted. *Pollen* light yellow. *Pistil: Germen* ovate, imbedded in a fleshy disk or ring, two-celled, having attached to the middle of the dissepiment on each side a large fleshy receptacle, to which the numerous ovules are attached: *Style* filiform, somewhat compressed: *Stigma* dark green, subexserted, bifid, segments short, spreading.

The whole plant, to the base of the pedicels, is of a beautiful glaucous hue: at this point, at the base of the petioles, and on the young leaves by the sides of the midrib, near the petiole, the colour is dark purple. The bloom is easily rubbed from every part (except the leaves, where it is more fixed) leaving the cuticle of a lively green, as on the pedicels and calyx, where the bloom is wanting. Whole plant inodorous. In the arrangement of the species, this should follow N. *cerinthoides*.

The plant was raised from seeds, communicated to the Royal Botanic Garden, Edinburgh, by Mr. Smith, of Monkwood, Ayr, whose son had sent them from Buenos Ayres. It was kept in the stove, but on coming into flower in the middle of March, was removed to the greenhouse. *Graham.*

Fig. 1. Corolla seen within. 2. Anther. 3. Pistil.—*Magnified.*

2838.

W. J. H. del.
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Swan Sc

OSBECKIA GLOMERATA. CLUSTER-FLOWERED OSBECKIA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—MELASTOMEÆ.)

Generic Character.

Cal. tribus ovatus, sæpius setis stellatis aut pube stellata vestitus; lobi 4—5-persistentes aut decidui; *appendices* inter lobos extus ortæ forma et magnitudine variæ. *Pet.* 4—5. *Stam.* 8—10, filamentis glabris, antheris subæqualibus breve rostratis, connectivo basi breve biauriculato. *Ovarium* apice setosum. *Caps.* 4—5-locularis. *Sem.* cochleata. *D. C.*

Specific Character and Synonyms.

OSBECKIA *glomerata;* octandra, caule tetragono foliisque ovato-lanceolatis trinerviis appresso-hispidis, floribus terminalibus breviter pedunculatis, calycis segmentis ovato-lanceolatis ciliatis, tubi pilis ramoso-stellatis, petalis obtusis (roseis) minuto-ciliatis.

OSBECKIA glomerata. *De Cand. Prodr. v. 3. p.* 141.

RHEXIA glomerata. *" Rottb. Pl. Surin. p.* 8. *t.* 4." *Willd. Sp. Pl. v.* 2. *p.* 304. *Spreng. Syst. Veget. v.* 2. *p.* 310.

RHEXIA capitata. *Humb. et Kunth Melast. v.* 2. *p.* 84. *t.* 32?

(β.) flore albo.

RHEXIA glomerata. *Lodd. Bot. Cab. t.* 334.

DESCR. Apparently an annual, a foot or a foot and a half high, erect, with opposite, four-sided branches, clothed with rigid, appressed hairs or bristles. *Leaves* opposite, about an inch long, upon very short petioles, ovato-

lanceolate, entire, three-nerved, hispid with closely appressed, whitish hairs, paler, and the nerves prominent beneath. *Flowers* from the extremities of the stems and branches, three or more together, having several small, green, foliaceous, ciliated bracteæ at the base. *Peduncles* very short. *Calyx* urceolate, the tube clothed with many long bristles, which are stellated at the top, and, besides, are more or less branched : *Segments* of the calyx four, ovato-lanceolate, never reflexed, strongly ciliated at the margin. *Petals* four, obovate, rather large, finely ciliated at the margin, obtuse, rose-coloured, the claw yellow. *Stamens* ten, five alternate ones smaller, and these have the anthers yellow; the others are purple on the upper side; both have two yellow, ovate glands or appendages at the base. *Pistil : Germen* oval, with a tuft of hairs at the top, four-celled, each cell containing many ovules, attached to a fleshy receptacle: *Style* about as long as the stamens, filiform : *Stigma* obtuse.

Seeds of this were sent along with those of CHÆTOGASTRA *lanceolata* to the Glasgow Botanic Garden from Trinidad, by Mr. LOCKHART, and it flowers at the same season of the year. It grows in Savannahs; and if, as I suspect, and as SPRENGEL seems to be of opinion too, the R. *capitata* of HUMBOLDT and KUNTH be the same, it is a native also of Martinique. ROTBÖLL gives it as an inhabitant of Surinam.

The calyx presents a highly curious appearance when magnified, from the nature of the hairs.

Fig. 1. Small Cluster of Flowers with their Bracteæ, the Petals and Stamen being removed from the central Flower. 2. Petal. 3. The two kinds of Stamens. 4. Pistil. 5. Section of the Germen. 6. Hair from the Calyx. —All more or less *magnified*.

2839

W. J. H. del. Pub. by S. Curtis Walworth July 1. 1828. Swan sc.

MALVA ANGUSTIFOLIA. NARROW-LEAVED MALLOW.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Calyx cinctus involucro triphyllo rarius 5—6-phyllo, bracteolis oblongis setaceisve. *Carpella* capsularia plurima in orbem disposita. *D. C.*

Specific Character and Synonyms.

MALVA *angustifolia ;* stellato-tomentosa, foliis lanceolatis crenato-dentatis, pedunculis plurimis axillaribus unibifloris, fructu globoso tomentoso, capsulis trispermis.

MALVA angustifolia. *Cav. Diss. v. 2. p. 64. t. 20. f. 1.* ejusdem *Icon. v. 1. p. 48. t. 68. Willd. Sp. Pl. v. 3. p. 777. Ait. Hort. Kew. ed. 2. v. 4. p. 211. Spreng. Syst. Veget. v. 3. p. 87.*

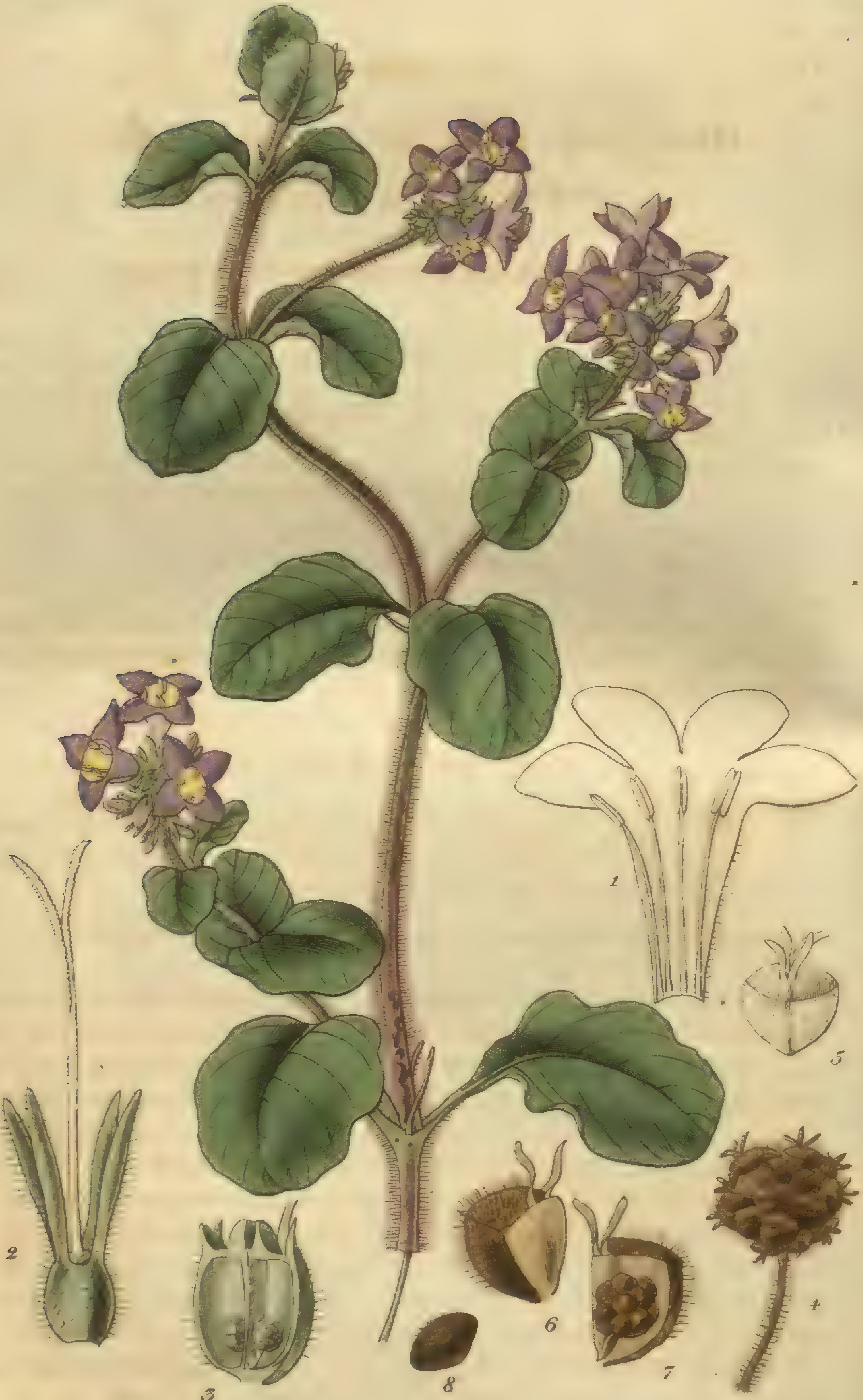
DESCR. *Stem* suffruticose, four to five feet high, rounded, branched, clothed, as is all the rest of the plant except the corolla, stamens, and pistil, with a closely-placed, stellated down. *Leaves* alternate, four to six inches long, upon a short footstalk, lanceolate, crenate at their margin, having a midrib, and two principal nerves at the base, besides many others branching from the midrib: the young leaves are very downy, the older ones less so, the down being more or less fugacious. *Stipules* setaceous, one on each side the petiole. *Peduncles* axillary, four or five from the same point, half an inch long, generally one, sometimes two-flowered. *Calyx* quinquefid, the segments ovato-lanceolate, the base having three setaceous appendages, which constitute the outer calyx or involucre. *Petals* five, spreading, united at the base, obcordate, rose-purple. *Column* of stamens short, white, a little hairy. *Anthers* numerous, forming a rounded mass. *Pistil* globular. *Style* white, as long as the stamens. *Stigmas* twelve, filiform, clubbed at the point. *Fruit* of about ten, compressed capsules, forming a globe of the size of a pea, very downy: each within containing three kidney-shaped, compressed seeds.

Raised in the garden of ROBERT BARCLAY, Esq. at Bury Hill, from seeds received from Mexico in 1826. It is a very ornamental plant; and during the summer and autumn comes to great perfection in the open border. I saw it in full blossom in October, 1827, when the accompanying drawing was made.

We learn from the Hortus Kewensis, that it was introduced into Britain by BENJAMIN BEWICK, Esq. in the year 1798; but it appears again to have been lost to our gardens till Mr. BARCLAY cultivated it: and we know of no figure existing but that of CAVANILLES.

Fig. 1. Calyx and Involucre. 2. Column of Stamens, including the Pistil. 3. Extremity of a Stigma. 4. Fruit *(nat. size)*. 5. Single Capsule or Carpellum. 6. Section of ditto. 7. Seed.—More or less *magnified*.

2840.



W.J.H. delt. . Pub. by S. Curtis Walworth July 1 1828. Swan Sc

HEDYOTIS CAMPANULIFLORA. BELL-FLOWERED HEDYOTIS.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—RUBIACEÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* tubulosa, 4-fida. *Caps.* didyma, 2-locularis, polysperma, apice inter dentes calycinos dehiscens. *Spreng.*

Specific Character.

HEDYOTIS *campanuliflora;* suffruticosa, villosa, foliis ovalibus obtusissimis petiolatis, stipulis setaceis, capitatulis pedunculatis terminalibus axillaribus.

DESCR. *Stem* much branched, especially below, where the plant is fruticose; branches spreading, flexuose, more or less herbaceous, obscurely four-sided, clothed with numerous long, horizontal, purple hairs. *Leaves* opposite, petiolated, roundish oval, very obtuse, entire, penninerved, hairy, especially on the underside, with white pellucid hairs: *petioles* very short in the upper part of the branches, below, more than half an inch long, clothed with purplish hairs, the two opposite ones connate, and furnished with a long, purple, setaceous, hairy stipule. *Flowers* large for the size of the plant, collected into a head, which is pedunculated, terminal, or axillary. *Calyx:* the *tube* subglobose, hairy, green, incorporated with the germen; the limb of four erect, linear-lanceolate, hairy, erect, afterwards spreading segments. *Corolla* between infundibuliform and campanulate, tube slightly hairy without, very much so within, and white at the base. *Limb* of four ovate spreading, bright pale blue, inclining to purplish, segments, throat yellow. *Stamens* four: *Filaments* inserted near the base of the tube: *Anthers* linear-oblong, reaching a little higher than the tube, white. *Germen* two-celled, each having near the base of the dissepiment an ascending, short, filiform receptacle, bearing a cluster of ovules: upon the top of the germen, and on each side of the base of the style, are two fleshy, green glands. *Style* filiform, white, about as long as the tube of the corolla: *Stigmas* two, linear, pubescent. *Capsules* collected into a very compact, globular head, somewhat turbinate, membranous and inflated, crowned with the segments of the calyx, hairy, didymous. *Seeds* by no means filling the cell, ten or twelve in each, somewhat angular, dark brown, minutely tuberculated.

A very beautiful stove plant, flowering almost the whole year through, and remarkable in the Genus for the large size and rich colour of the flowers, as well as for the great breadth of the leaves, and rich clothing of purple hairs upon the stem. It is a native of Brazil, about Rio, where it cannot be uncommon; for it is not unfrequently sent to this country in seed, or as dried specimens. Our first knowledge of the plant was from the latter, which were transmitted to us nearly at the same time by Mr. Boog, Mr. Burchell, and Dr. Scouler. In 1826 and 1827 it flowered in the stove of Robert Barclay, Esq. at Bury Hill, where our drawing was made, and where from only a casual inspection of the plant it had been called "Campanula *nummulariifolia*" by Dr. Sims. In the months of February and March plants have flowered in the Glasgow Botanic Garden; for some of which we are indebted to Mr. Barclay; and others, raised from Brazilian seeds were sent to us by the Honourable the Lord Justice Clerk. It deserves a place in every collection *.

The stems in the younger part of the plant are fragile; but there is a central bundle of vessels which is by no means so easily broken.

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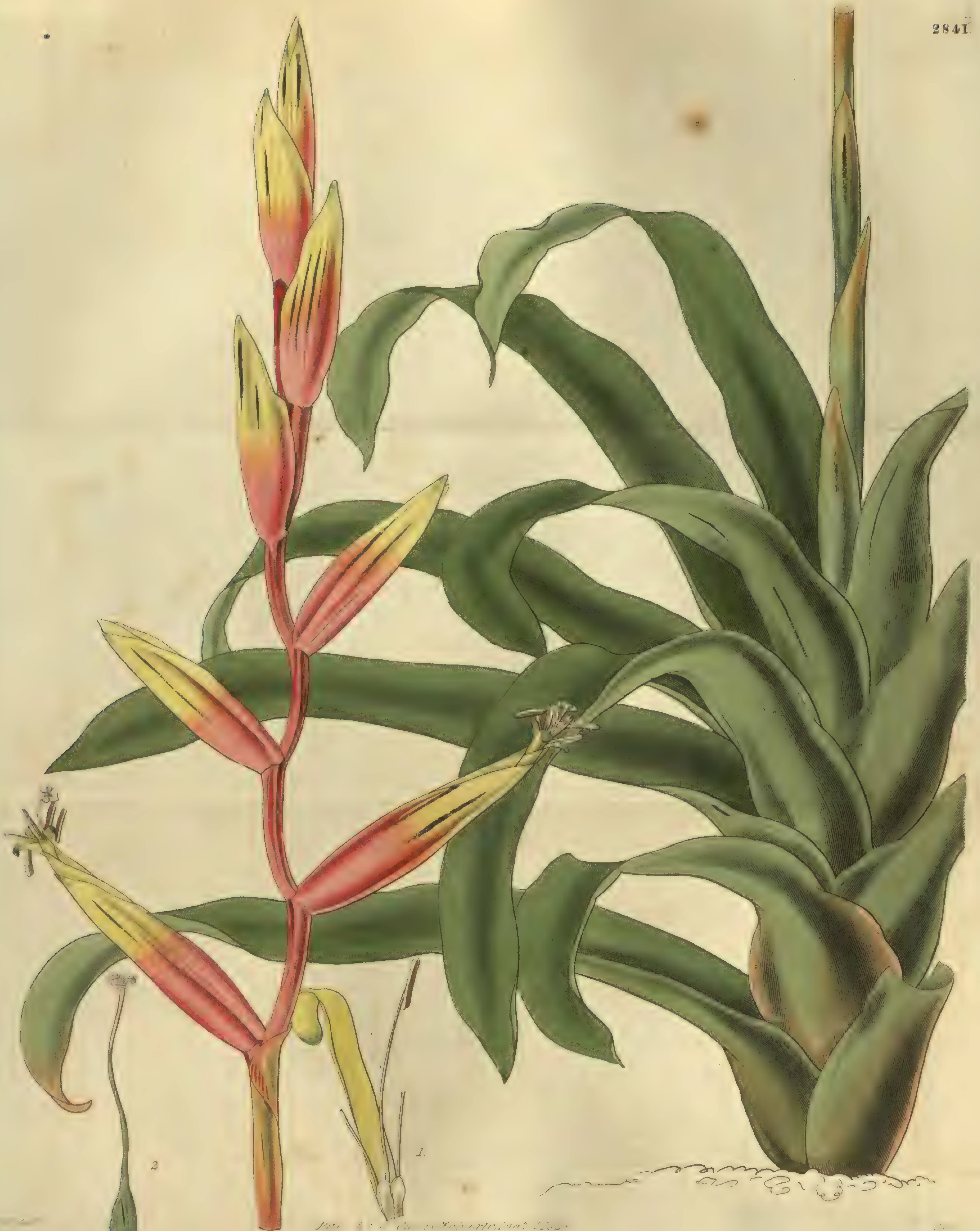
* Since the above was printed, this plant has appeared in Jameson's Edinb. Phil. Journal as Æginetia *capitata*.

Fig. 1. Corolla laid open. 2. Calyx and Pistil. 3. Section of the Germen. 4. Head of Capsules *(natural size)*. 5. Single didymous Capsule. 6. One of the two portions entire. 7. The other cut through vertically to shew the Seeds. 8. Single Seed:— All but fig. 4 more or less *magnified*.

2841



Pub. by S. Curtis [illegible]

TILLANDSIA PSITTACINA. GAUDY-FLOWERED TILLANDSIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—BROMELIACEÆ.)

Generic Character.

Cal. 3-partitus, inferus. *Cor.* 3-partita. *Caps.* 3-valvis. *Semina* papposa. *Spr.*

Specific Character.

TILLANDSIA* *psittacina;* foliis lineari-ligulatis integerrimis acutis nudis basi inflatis, spica simplici, rachi flexuosa colorata, floribus remotis, bractea longitudine floris colorata.

DESCR. An inhabitant of the trunks of trees. *Leaves* radical, from six to eight inches long, linear-ligulate, much inflated, with the sides involute at the base, towards the extremity plane, recurved, acute; the margin every where entire, the colour a yellow-green, the surface naked, free from scales or any other superficial covering; of a thin texture, more or less waved. From the centre of these leaves arises a *scape* or flower-stalk, a foot or more high, terete at the base, and bracteated; the rachis zigzag, of a fine red, grooved on one side. *Flowers* remote, distichous, large. *Bractea* equal in length with the flower, or nearly so, broadly ovate, circumvolute upon the flower, its lower part of a bright-red, the rest deep yellow. *Calyx* of three

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* After TIL-LANDS, a professor of medicine at Abo, who wrote, in 1683, a history of the plants of the neighbourhood of that city.

circumvolute leaflets, scariose: *Corolla* of three petals, longer than the calyx and bracteæ, linear, revolute and green at the point. At the base of each petal are two oblong, membranaceous, erect scales, within which the stamens are inserted. *Filaments* as long as the corolla. *Anthers* versatile, linear, yellow-brown. *Pistil: Germen* inferior ovate, tapering into a filiform *style,* which is as long as the stamens. *Stigma* trifid, the segments very blunt, villous.

Recently introduced by William Harrison, Esq. of Rio de Janeiro, to the rich collection of his brother Richard Harrison, Esq. of Aighburgh, near Liverpool; who obligingly sent me a specimen of the flowers and leaves, together with a sketch of the whole plant, which is here given.

It may certainly rank among the most beautiful of this curious genus; the colour of the rachis, bracteæ, and flowers being singularly brilliant. It is allied to the Bromelia *aloifolia* of my "Exotic Flora"; but here there are scales at the base of the corolla, as in Pitcairnia.

Fig. 1. Petal shewing the scales and the insertion of the stamens. 2. Pistil.—Scarcely *magnified.*

2842.

W. J. H. del. [illegible] Aug.t 1. 18[illegible] [illegible]

PRIMULA VERTICILLATA. WHORLED-FLOWERED PRIMROSE.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—PRIMULACEÆ.)

Generic Character.

Flores subumbellati, involucrati. *Cal.* tubulosus, 5-fidus s. 5-dentatus, persistens. *Cor.* tubulosa, fauce vel nuda vel glandulosa, limbo 5-lobo. *Caps.* apice 10-dentata, polysperma. *Spr.*

Specific Character and Synonyms.

PRIMULA* *verticillata;* foliis radicalibus erectis oblongis acutis serratis in petiolum attenuatis subtus farinosis, floribus verticillatis, involucris foliaceis, tubo corollæ longissimo, laciniis integris. *Spr.*

PRIMULA verticillata. *Forsk. Fl. Æg. Arab. Cent. II. p.* 42. *Vahl Symb. Bot. p.* 15. *t.* 5. *Willd. Sp. Pl. v.* 1. *p.* 500. *Lehm. Primul. p.* 92. *Spreng. Syst. Veget. v.* 1. *p.* 575. *Graham Descr. of New and Rare Plants in Edin. New Phil. Journ.* 1828.

DESCR. *Root* supporting several scapes. *Leaves* suberect, rhomboideo-spathulate, decurrent along petioles that are longer than the leaves, incised, and the divisions serrated, convex above, soft, much veined from the midrib, and somewhat bullate. *Scape* erect, round. *Flowers* verticillate, five in each whorl, bracteate. *Bracteæ,* one to

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* From *primus,* on account of the early appearance of the flowers of most of the species.

each pedicel, sessile, lanceolate, doubly serrated, but less so than the leaves, nerved and veined. *Pedicels* nearly as long as the bracteæ. *Calyx* five-cleft, segments erect, or somewhat spreading, pointed, and serrated. *Corolla* yellow, scarcely perfumed, tube (three-quarters of an inch long) twice as long as the calyx, round and slightly swollen, where it covers the germen, and in the situation of the stamens, distinctly five-sided between these two points, and in some degree above the last; throat naked; *limb* spreading at a right angle, small (less than half an inch across,) segments obcordato-rotund, crenate (or entire?). *Anthers* oblong, nearly sessile in the upper third of the tube. *Stigma* cup-shaped, included, but carried above the stamens. *Style* filiform. *Germen* globular, green. *Ovules* extremely numerous, ranged round the central receptacle, a slender process which is continued with the style, and may be easily unsheathed from the lower part of this. The outer side of the corolla, both sides of the calyx, the pedicels and scape, the bracteæ and leaves, particularly on the lower sides, are powdery.

We received, in 1825, a plant of this species from M. Otto, of Berlin, under the name of P. *involucrata*, marked "Ægypt", but it suffered so much on the way that it could not be preserved. The subject of the present article was raised from seed, communicated from the same liberal quarter, in 1826, and flowered in the beginning of the present month (March, 1828). The divided edge of the corolla seems the only deviation from the essential character of P. *verticillata* of Forskaol, and the analogy of other species, as P. *prænitens*, shews that this cannot be relied upon as a specific distinction. Graham.

I have compared the drawing of this interesting plant, kindly sent to me by Dr. Graham, with Vahl's figure of P. *verticillata*, in his Symbolæ Botanicæ, and I think there can be no doubt of the identity of the two. The plate of Vahl, evidently made after a dried specimen, has the segments of the corolla not only entire but acute; Forskaol himself describes them as being *emarginate;* but Lehmann assures us that both the specimen of Vahl and Forskaol have them *entire*.

Forskaol found the plant growing by the sides of streams on the mountain Kurma, in Arabia Felix.

2845.

W. J. H. del.ᵗ

Pub. by S. Curtis Walworth Aug.ᵗ 1. 1828.

GAULTHERIA SHALLON. SHALLON GAULTHERIA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ERICEÆ.)

Generic Character.

Cal. 5-fidus, pedicello bibracteato. *Cor.* urceolato-ovata. *Antheræ* apice bicornes. *Capsula* 5-locularis, calyce baccato vestita.

Specific Character and Synonyms.

GAULTHERIA* *shallon;* suberecta, foliis subcordato-ovatis acutis serratis marginibus ramisque junioribus hispidis, racemis secundis, pedicello infra medium bibracteato, corollis viscoso-glandulis.

GAULTHERIA shallon. *Pursh Am. Sept. v.* 1. *p.* 284. *Nutt. Gen. v.* 1. *p.* 263.

GAULTHERIA fruticosa. *Menz. MSS. (in Herb. nostr.)*

DESCR. *Stems* fruticose, terete, branched, a foot to a foot and a half high, nearly erect, the younger branches hairy, or even hispid, the hairs deciduous. *Leaves* alternate, nearly sessile, broadly ovate, subcoriaceous, somewhat cordate at the base, shining, acute, or rather suddenly and shortly acuminate, veiny on both sides, dark-green above, paler beneath, finely serrated; the margin red in the young leaves and ciliated, the hairs becoming black in the older leaves, and at length deciduous. *Racemes* terminal, often

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* Named after GAULTHIER or GAUTIER, a French physician, resident in Canada, who wrote on the *Sugar Maple*.

two or three together. *Peduncle* ferruginous, glanduloso-hirsute and clammy, with small, concave, imbricated bracteæ at the base, and a larger, reflexed one at the base of each pedicel. Below the middle of the pedicel, but not at the very base, are two small, white, reflexed, ovate bracteæ. *Flowers* secund and pendent, white, clothed with viscid, red, glandular hairs. *Cal.* of the same colour as the corolla, and closely embracing its base. *Corolla* ovate, the mouth five-toothed, the teeth small, reflexed. *Stamens* ten: *Filament* broad, white, ciliated: *Anther* oblong, two-celled, opening by two pores, and behind them are two bifid horns.

Discovered by ARCHIBALD MENZIES, Esq. on the North-west coast of America, growing in pine forests, under the shade of trees where scarcely any other plant would live. Its handsome and graceful flowers, with the large, glossy, evergreen leaves, render it most desirable for the American border: but it was not till last year that we had any prospect of cultivating so great a rarity, when seeds arrived, both for the Horticultural Society of London and for the Glasgow Botanic Garden, gathered at the Columbia by Dr. SCOULER and Mr. DOUGLAS. These soon vegetated, and from the first plant that blossomed in our Botanic Garden early in May, 1828, the accompanying figure was made. There is no doubt that the plant will succeed well in the open air, treated like other North American shrubs, and that it will then produce stronger stems, and more numerous flowers.

The berries of the *Shallon* are much esteemed by the natives, on account of their agreeable flavour; and we can attest their excellence from having tasted some which Dr. SCOULER brought home.

Sir JAMES SMITH, in REES'S Cyclopedia, seems to have taken this plant for the GAULTHERIA *erecta*, of VENTENAT, Hort. Cels: but that is a native of Peru, and though, unquestionably, very nearly resembling this, has the leaves less distinctly serrated, ferruginously downy beneath, and flowers of a bright red colour.

Fig. 1. Flower, Pedicel, and Bracteæ. 2. Stamen. 3. Pistil.—*Magnified.*

W. J. H. delt
Pub. by S. Curtis, Walworth, Augt 1.1828.
Swan Sc.

EPIDENDRUM FUSCATUM. DINGY-FLOWERED EPIDENDRUM.

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord. — ORCHIDEÆ.)

Generic Character.

Columna cum ungue labelli longitudinaliter connata in tubum (quandoque decurrentem ovarium). *Massæ Pollinis* 4, parallelæ, septis completis persistentibus distinctæ, basi filo granulato elastico auctæ. *Br.*

Specific Character and Synonyms.

EPIDENDRUM[*] *fuscatum;* cauli simplici, foliis oblongis acuminatisve, pedunculo terminali elongato, spica globosa, columna petalis breviore. *Willd.*

EPIDENDRUM fuscatum. *Swartz Nov. Act. Ups. v.* 6. *p.* 69. *Smith Spicil. Bot. p.* 21. *t.* 23. *Willd. Sp. Pl. v.* 4. *p.* 120. *Andr. Bot. Rep. t.* 441. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 218. *Bot. Reg. t.* 67. *Loddiges Bot. Cab. t.* 472.

EPIDENDRUM anceps. *Jacq. Am. p.* 224. *t.* 138. *Loddiges Bot. Cab. t.* 887.

EPIDENDRUM secundum. *Swartz Obs. p.* 325. exclusis synonymis. *(Fide Willd.)*

DESCR. Parasitic. *Roots* thickish, white, flexuose fibres. *Stem* six to eight inches high, by no means bulbous, below sheathed with scales, and terete, upwards more compressed, leafy, leaves distichous, oblong, thickish, fleshy, the point reflected, the base sheathing. At the extremity rises a *peduncle*

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[*] From ἐπι, upon, and δενδρον, a tree; from the circumstance of the species growing upon the trunks of trees in their native country.

peduncle four to five inches long, sheathed with remarkably compressed ancipitate scales. *Flowers* forming a loose head, or an imperfect umbel, of a brownish green colour, particularly the two inner, which are rather smaller, and somewhat spathulate; the three outer more oval. *Lip*, with its claw united by its upper surface to the whole length of the underside of the column, the lamina spreading, greenish, somewhat three-lobed, the middle lobe notched and somewhat obtusely mucronate. *Column* shorter than the petals, cylindrical, green, a little enlarged at the extremity, sunk into which are three (!) distinct anthers. Upper one the largest, and containing, as in the other species of the genus, four *Pollen Masses* (in two pairs), in as many separate cells, and the two lower ones, (which are partly concealed by a lobe on each side of the extremity of the column,) scarcely more than half the size, each having two cells, and one pair of pollen masses. The *Pollen Masses* are the same shape in both, but smaller in the lower or lateral anthers, yellow.

Mr. Brown has long ago shewn that, in many Orchideæ, on each side of the perfect anther may be seen a swelling, indicating the rudiments of two other anthers, thus making the real number *three*, according with the ternary arrangement so common in the Dicotyledonous plants; and in the Genus Orchis and Habenaria in particular, these *abortive* anthers are distinctly visible. But I am not aware that any author has ever seen three perfect anthers in each flower. Such, however, is actually the case in the individual here figured; and that not in one flower only, but upon every blossom on the plant.

The specimen came from St. Vincent, whence it was sent last year by the Rev. L. Guilding; and this year, in the month of March, having been treated in the same manner as other tropical Orchideæ, it bore its curious flower.—Whether or not a similar mode of structure, as regards the stamen, belongs invariably to this species, I am not able to say. The flowers are liable to vary somewhat in size and in colour; but there seems no real difference to exist between E. *fuscatum* and *anceps*.

Fig. 1. Flower. 2. Front view of the Column and Lip. 3. Uppermost and large Anther. 4. Its Pollen Masses. 5. 5. The lower and smaller Anthers. 6. One seen from its under side. 7. Its Pollen Masses.—More or less *magnified*.

2845.

W. J. H. delt. Pub. by S. Curtis, Walworth, Aug. 1. 1828. Swan sc.

JUSTICIA QUADRANGULARIS. SQUARE-STALKED JUSTICIA.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — ACANTHACEÆ.)

Generic Character.

Cal. æqualis, 5 raro 4-partitus. *Cor.* valde irregularis, bilabiata vel ringens, labio inferiore diviso. *Stamina* duo, antherifera. *Antheræ* biloculares, loculis insertione sæpius inæqualibus. *Filamenta* sterilia nulla v. obsoleta. *Ovarii* loculi dispermi. Dissepimentum adnatum. *Semina* retinaculis subtensa. *Br.*

Specific Character.

JUSTICIA* *quadrangularis;* (antheris loculis parallelis), foliis late ovato-lanceolatis petiolatis acutis subserratis, spica terminali, bracteis minutis, corolla subinfundibuliformi curvato limbo subæquali, caule acute tetragono.

DESCR. *Plant,* in our stove, a foot high, every where glabrous, slightly branched, and somewhat shrubby; *stem* and *branches* dark green, acutely quadrangular, the angles margined. *Leaves* large, opposite, remote, broadly ovato-lanceolate, dark green, somewhat coriaceous, paler beneath, acute, rather obscurely serrated, the base entire, petiolated. *Spike* terminal on a quadrangular peduncle, four-sided. *Bracteæ* small, three to each flower, ovato-acuminate.

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* Named by HOUSTON after JAMES JUSTICE, Esq. F. R. S., who published, in 1674, a volume called the *British Gardener's Director.*

Calyx five-partite, on a short, very thick *pedicel,* laciniæ erect, linear-lanceolate. *Corolla* purplish red, somewhat infundibuliform: *tube* short, rather gibbous at the base, curved down suddenly at the upper part, limb nearly equal, of five suberect segments. *Stamens* two, much curved, as long as the corolla. *Filaments* white, pubescent. *Anthers* oblong, acute, white, and pubescent at the back; *cells* two, parallel, brown. *Germen* ovate, upon a yellow fleshy disk or base. *Style* as long as the stamens, slender, filiform. *Stigma* slightly clavate.

This very distinctly marked species of JUSTICIA, which I do not find described by any botanical author, exists in the stove of the Glasgow Botanical Garden, and is marked as having been sent from Mr. BARCLAY's collection at Bury Hill, under the name of "J. *asprella.*" But there is nothing in the slightest degree rough about the plant; and it is to be feared there has been some mistake in labelling it. It is probably a native of the Mauritius or Madagascar, and one of M. BOJER's discoveries.

It flowers in the month of January.

Fig. 1. Front view of a Flower. 2. Stamen. 3. Calyx and Pistil, with the three Bracteæ.—More or less *magnified.*

2846.

B. incarnata papillosa

W. J. H. del.

Pub. by S. Curtis, Walworth, Augt 1. 1828.

BEGONIA PAPILLOSA. PAPILLOSE BEGONIA.

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Class and Order.

MONŒCIA POLYANDRIA.

(Nat. Ord. — BEGONIACEÆ.)

Generic Character.

MASC. *Cal.* 0. *Cor.* polypetala, petalis plerumque 4, inæqualibus.

FÆM. *Cal.* 0. *Cor.* petalis 4—9, plerumque inæqualibus. *Styli* 3. bifidi. *Caps.* triquetra, alata, trilocularis, polysperma.

Specific Character and Synonym.

BEGONIA* *papillosa;* caule erecto tereti, foliis inæqualiter cordatis acuminatis inæqualiter dentato-ciliatis supra albo-maculatis papillisque acuminatis raris infra ad venas pubescentibus, stipulis ovatis acuminatis integerrimis, capsula alis subæqualibus obtusangulis. *Graham.*

BEGONIA papillosa. *Graham, MSS.*

DESCR. *Stem* erect, fourteen inches high, scarcely branched in our specimens, till after being cut down; but probably more so when in a vigorous state: somewhat tumid at the joints, rounded, brown. *Petioles* alternate, spreading, rounded, channelled above, pubescent, one and a quarter inch long. *Leaves* three and a half times as long as the petiole, very unequally cordate, acuminate, somewhat undulate and bullate, crisped, on the upper surface bright

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* So named by PLUMIER, after *Begon,* who assisted that author with materials for his writings on American Botany.

green and shining, occasionally spotted with white, and having distant papillæ, of which each is terminated with a curved rather harsh hair, red and glabrous below, except at the veins, which are sparingly pubescent, unequally dentato-ciliated, and somewhat angled. *Stipules* ovate, acuminate, smooth, entire, marcescent. *Cymes* axillary, longer than the leaves, turned to one side of the stem, drooping, (thrice?) dichotomous; *peduncles* and *pedicels* flattened. *Bracteæ* opposite, ovate, coloured, deciduous, placed in pairs at each division of the cyme, and at the base of each *female* flower, but wanting in the *male*. *Male* flowers placed in the axil of the bifurcations, and, as it would appear, always along with a female at the ultimate divisions of the cyme, where they hang on the outside of the female flowers in the two lateral, and, on the inside in the two middle divisions of the cyme; each always expands before the corresponding female flower. This distribution and premature evolution of the male flowers are common in the genus. *Corolla* tetrapetalous, very unequal, rather more so in the female flowers, where the outer petals are retuse, full three-quarters of an inch broad by half an inch long, in the male cordato-subrotund. *Stamens* numerous; *filaments* slender; *anthers* large, wedge-shaped. *Germen* inferior, nearly equally winged, the angles obtuse, the upper edges placed at right angles to the axis of the flower. *Styles* three, channelled, enlarging upwards. *Stigmas* large, lobed, revolute, crisped, and pubescent.

This species flowered in the stove of the Royal Botanic Garden, Edinburgh, in April of this year, 1828, and at about the same season during the three preceding years. We received the plant from Kew in 1824, but without specific name, or any intimation regarding its native country.—*Graham.*

Fig. 1. Stamens, *magnified.* 2. Truncated Capsule.—*Natural size.*

2847

W. J. H. del^t Pub. by S. Curtis Walworth. Aug^t 1 1828. Swan Sc.

(2847)

ROSA SINICA. THREE-LEAVED CHINESE ROSE.

Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord. — ROSACEÆ.)

Generic Character.

Calycis tubus urceolatus, carnosus, *achenia* plurima hirsuta includens. *Receptaculum* villosum. *Lindl.*

DIV. XI. *Banksianæ. Stipulæ* subliberæ, subulatæ v. angustissimæ, sæpius deciduæ. *Foliola* sæpius ternata, nitida. *Caules* scandentes. *Lindl.*

Specific Character and Synonyms.

ROSA* *sinica;* stipulis (parvis) lineari-lanceolatis semiadnatis serratis deciduis, petiolis costaque (plerumque) aculeatis, fructibus muricatis.

ROSA sinica. *Ait. Hort. Kew. v. 2. p.* 202. *ed.* 2. *v.* 3. *p.* 261. *(excl. syn.) Smith in Rees Cycl. (excl. syn. Linn.) Lindl. Ros. p.* 126. *f.* 16. *Spreng. Syst. Veg. v.* 2. *p.* 556.

ROSA nivea. *De Cand. Cat. Hort. Monsp. p.* 137. *Red. Ros. v.* 2. *p.* 81. *cum Ic. De Cand. Prodr. v.* 2. *p.* 599.

ROSA ternata. *Poir. in Encycl. Bot. v.* 6. *p.* 284.

ROSA trifoliata. *" Bosc. Dict."*

ROSA cherokeensis. *Donn Cant. ed.* 8. *p.* 170.

ROSA lævigata. *Mich. Bor. Am. v.* 1. *p.* 295. *Pursh Am. Sept. v.* 1. *p.* 345. *Smith in Rees Cycl. Nutt. Gen. v.* 1. *p.* 308. *Elliott, Sketch, v.* 1. *p.* 567. *Lindl. Ros. p.* 125. *De Cand. Prodr. v.* 2. *p.* 600. *Spreng. Syst. Plant. v.* 2. *p.* 556.

DESCR.

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[*] From ροδον, in Greek, and that again from *rhos* (whose root is *rhodd*, red) a Rose, in Celtic.

Descr. A climbing, much branching *shrub*, with very long, flexible, green branches, clothed with a beautiful smooth bark, and bearing scattered, rather large, uncinate prickles, which are often geminate at the setting on of the leaves. *Petioles* often tinged with purple, grooved on the upper side, generally, but not always, beset with several small, uncinate prickles; at the base are two small semiadnate, linear-lanceolate, yellowish, deciduous *stipules*, serrated and somewhat glandular. *Leaflets* three, rarely five, and in the latter case the two lowermost are much the smallest; the rest an inch and a half, and sometimes (the terminal one) two inches long, broadly lanceolate, somewhat rigid, evergreen, perfectly glabrous, shining, dark green above, paler beneath; the margins beautifully serrated, with the teeth almost setigerous, the nerves indistinct, the midrib beneath mostly very prickly. *Petiole* hispid above. *Flower* solitary, very large, fragrant. *Calyx* tube ovate, very hispid: the segments pubescent, spreading, soon reflexed, much acuminated, entire. *Petals* pure white, waved, obcordate, very obtuse, approaching to triangular. *Stigmas* collected into a head in the centre of a yellow, fleshy disk.

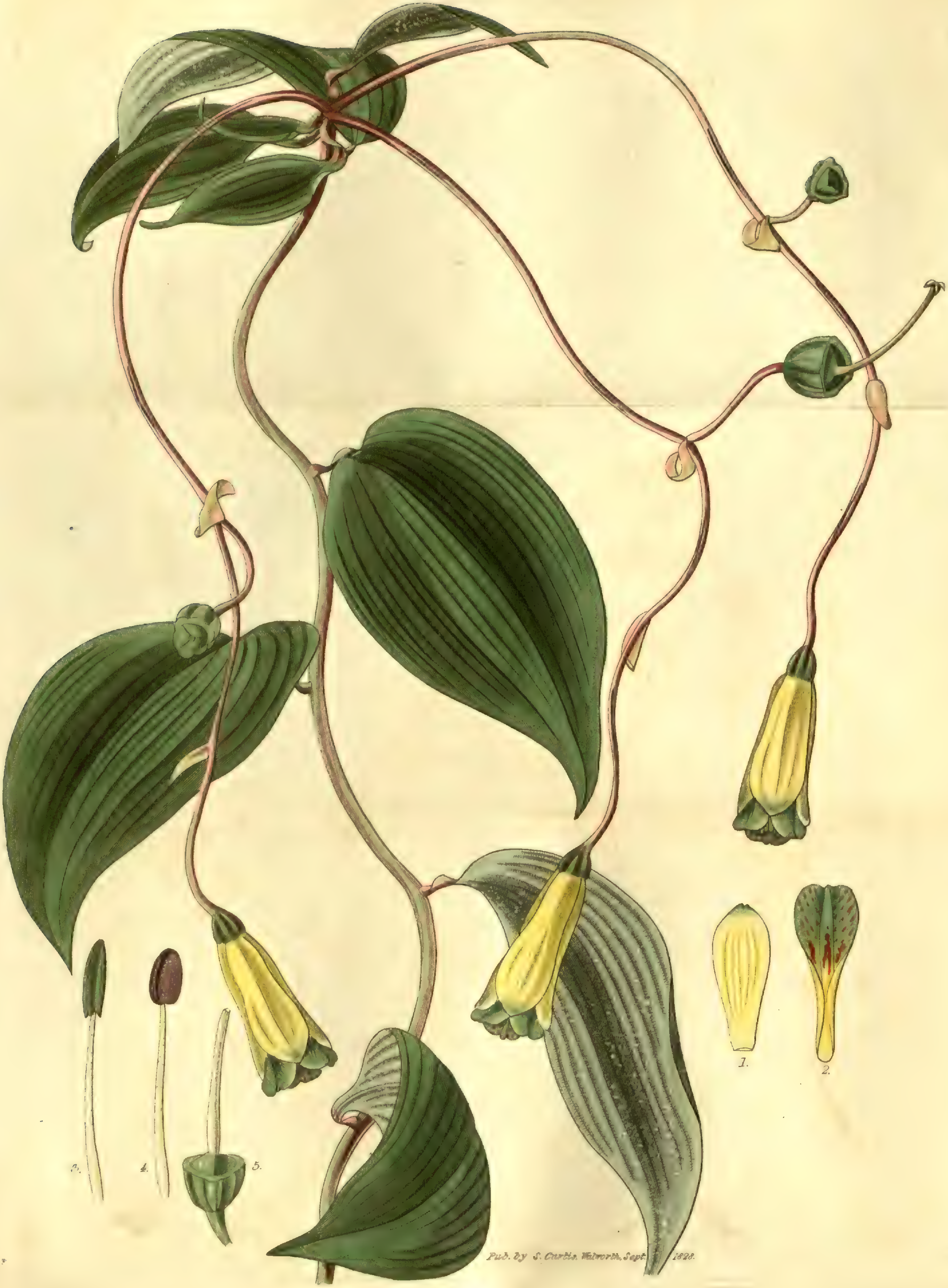
The plant which produced the flower here figured in the stove of the Glasgow Botanic Garden, was sent to that Institution by Mr. James Wilson, from Savannah, with the name of the *Cherokee* Rose; under which appellation, I believe, it has long been known in British collections; though it has never, to my knowledge, blossomed in any of them. Our plant was trained up to one of the rafters of the building, and in that situation bore its very large, pure white, and fragrant flowers in May, 1828.

There can be no doubt of its being the Rosa *lævigata* of Michaux and the American Botanist, who describes it as a native of Georgia, growing in shady woods, and climbing up trees to a great height. It has, however, altogether the peculiar habit of the Chinese Roses, and, cultivated in the same stove with Rosa *sinica*, which we have received direct from its native country, there does not appear the slightest marks of distinction; and Mr. Lindley, in his valuable Monograph, notices their great similarity. So that to me it seems more than probable, that Rosa *sinica* has been imported into North America, either from China, or from our European gardens; an idea which is much strengthened, if not confirmed, by an observation made by Mr. Elliott, in his Fora of South Carolina and Georgia: " This has been cultivated in the gardens of Georgia for upwards of forty years, under the name of the '*Cherokee Rose*,' but its origin is still obscure.

" In our rural œconomy," Mr. Elliott continues, " This plant will one day become very important. For the purpose of forming hedges, there is perhaps no plant which unites so many advantages; and in quickness of growth, facility of culture, strength, durability, and beauty, it has perhaps no rival."

Fig. 1. Flower, from which the Petals are removed, *natural size.* 2. Stamens.—*Magnified.*

2848.



W. J. H. delᵗ.

Pub. by S. Curtis, Walworth, Sept. 1828.

ALSTRŒMERIA OVATA. BROAD-LEAVED DOWNY ALSTRŒMERIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AMARYLLIDEÆ. *Br. Kunth.*)

Generic Character.

Perianthium corollaceum, subcampanulaceum, sexpartitum, irregulare; laciniis duabus (vel tribus) interioribus basi tubuloso-conniventibus. *Stam.* 6, laciniis inserta, demum declinata. *Stigma* trifidum. *Capsula* trilocularis, loculis polyspermis. Caulis *erectus, scandens aut volubilis, foliatis.* Flores *umbellati.* Kunth.

Specific Character and Synonyms.

ALSTRŒMERIA* *ovata;* volubilis, foliis oblongis acuminatis petiolatis supra villosis, pedunculis umbellatis bifloris bracteatis laxis, perianthio cylindraceo-campanulato laciniis rectis.

ALSTRŒMERIA ovata. *Cav. Ic. Pl. v.* 1. *p.* 54. *t.* 76. *Willd. Sp. Pl. v.* 2. *p.* 196. *Lam. Cycl. v.* 5. *p.* 151. *Spreng. Syst. Veget. v.* 2. *p.* 81.

ALSTRŒMERIA hirtella. *Sweet Brit. Fl. Garden, t.* 228. *Humb. et Kunth, Nov. Gen. v.* 1. *p.* 226*?*

DESCR. *Stem,* in our plant, seven to eight feet high, herbaceous, quite simple, terete, twining, glabrous, purplish. *Leaves* alternate, remote, four to five inches long, oblong or elliptical, acuminated, and contracted at the base into a flat, red petiole of half or three quarters of an inch

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* So named after ALSTROEMER, a Swedish Naturalist, who first made this genus known to LINNÆUS.

in length, and this is twisted in such a manner, that the underside of the leaf becomes the upper, and is perfectly glabrous, whilst the underside is strikingly hairy, especially upon the numerous parallel nerves. *Involucre* of about five spreading or recurved leaves, unequal in size, and exactly resembling those of the stem. *Umbel* of three, or according to CAVANILLES, five peduncles, long, pendent, flexuose, red, bearing two flowers, one upon a short, the other upon a longer pedicel; and there are two ovate, reflexed bracteæ upon each. *Flowers* pendent, an inch and a half long. *Perianth* of six segments, tubuloso-campanulate, the laciniæ straight, especially the three outer ones, which are oblongo-spathulate, pale ochraceous yellow, nerved, green at the points, the three inner are decidedly spathulate, a little longer than the outer, with the margins below remarkably inflexed, subsaccate and bearing honey, yellowish, the limb notched, having a little point in the notch, green, with many purple, linear, oblique spots. *Stamens* six: *Filaments* whitish, slightly pubescent. *Anthers* at first dark green, oblong, compressed, opening at the sides, at length, after the discharge of the pollen, oval, brownish-purple. *Pollen* purplish. *Pistil*: *Germen* inferior, turbinate, subtriangular, furrowed: *Style* at first short, slender, columnar, subpubescent, at length longer, and dividing at the extremity into three *stigmata*.

This very interesting species of ALSTRŒMERIA, allied, indeed, but yet abundantly distinct from A. *Salsilla*, flowered in the greenhouse of the Glasgow Botanic Garden, in September, 1827. Seeds of it were received from Mr. CRUICKSHANKS in 1825, and young plants from the Edinburgh Botanic Garden in the same year: raised from seeds, equally, I believe, sent from Chili, by Mr. CRUICKSHANKS.

It is said to be also a native of Peru *.

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* The ALSTRŒMERIA *hirtella* of SWEET's British Flower Garden is, I think, though said to be a native of Mexico, unquestionably the same species with the one here given; and it may also be that of HUMBOLDT and KUNTH. Perhaps the A. *hirsuta* of these latter authors may not be specifically distinct, and all these approach very near to the A. *latifolia* of RUIZ and PAVON.

Fig. 1. Outer Segment of the Perianth. 2. Inner ditto, *nat. size*. 3. Stamen, before the discharge of the Pollen. 4. Ditto, after the Pollen is dispersed. 5. Pistil.—*Magnified*.

2840

W. J. H. delt.

Pub. by S. Curtis, Walworth, Sept. 1. 18

BEGONIA DIPETALA. TWO-PETALED BEGONIA.

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Class and Order.

MONŒCIA POLYANDRIA.

(Nat. Ord.—BEGONIACEÆ.)

Generic Character.

MASC. *Cal.* 0. *Cor.* polypetala, petalis plerumque 4, inæqualibus.

FŒM. *Cal.* 0. *Cor.* petalis 4—9, plerumque inæqualibus. *Styli* tres, bifidi. *Caps.* triquetra, alata, trilocularis, polysperma.

Specific Character.

BEGONIA *dipetala;* fruticosa, erecta, foliis semicordatis acutis subangulatis duplicato-serratis glabriusculis maculatis discoloribus, stipulis semicordatis, floribus dipetalis, capsulæ alis subæqualibus rotundatis. *Graham.*

BEGONIA dipetala. *Graham MSS.*

DESCR. *Stem* erect, tapering, greyish brown, with a few small, round, vermillion spots, scarcely branched in our specimens, which are small. *Leaves* half heart-shaped, acute and somewhat lobed, without any callosity on the edge, unequally and doubly serrato-dentate, slightly bullate, crisped at the margin when young, above green, with white spots, and having a pellucid, short, awl-shaped hair, rising from the centre of a few of the spots, below blood-coloured, but when old, blanched, smooth, except at the veins, where there are a few hairs; veins prominent, especially below: petioles distichous, at first suberect, afterwards spreading or divaricated, nearly as long as the leaves, rounded, flattened a little, and slightly channelled above. *Cyme* axillary,

lary, peduncled, drooping, rather longer than the petioles and foliage, dichotomous, peduncles and pedicels flattened: two obsolete, nearly opposite bracteas are on the middle of the female pedicel, but none on the male. *Flowers* pink, dipetalous, handsome, large, (female, one inch broad, by three quarters of an inch long; male, three quarters of an inch in either diameter,) males in the clefts of the cyme, and on the outside of its subdivisions; those in the clefts expand first, the others nearly at the same time with the corresponding females; petals in them subrotund; in the females more cordate; in both, but especially the latter, subacuminate. *Stamens* numerous, filaments wedge-shaped at the top, an anther-cell being fixed along each side. *Capsule,* wings rounded, subequal: *Stigmata* pale yellow, revolute, angled, pubescent along the edge.

This species flowered at the Royal Botanic Garden Edinburgh, in April, 1828, having been raised two years before from seed sent by Dr. JOHNSTONE, from Bombay. Like all the other species of BEGONIA, it requires the heat of the stove. GRAHAM.

W. J. H. del.
Pub. by S. Curtis, Walworth, Sept. 1. 1828.
Swan Sc.

CONOSPERMUM ERICIFOLIUM. HEATH-LEAVED CONOSPERMUM.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—PROTEACEÆ.)

Generic Character.

Perianthium tubulosum, ringens: lacinia suprema basi fornicata. *Antheræ* tres, inclusæ: laterales dimidiatæ: superior biloba; primo cohærentes, lobis proximis vicinarum loculum constituentibus. *Stigma* liberum. *Nux* obconica, papposa. *Br.*

Specific Character and Synonyms.

CONOSPERMUM * *ericifolium;* foliis erectis numerosis subimbricatis subulato-filiformibus, spicis simplicibus axillaribus pedunculo brevioribus.

CONOSPERMUM ericifolium. *Smith in Rees Cycl. Knight et Salisb. Prot. p.* 95. *Br. in Linn. Trans. v.* 10. *p.* 154. *Spreng. Syst. Veget. v.* 1. *p.* 474.

DESCR. *Shrub* erect. *Stem* rounded, brown; *Branches* erect, green when young and pubescent. *Leaves* subulato-filiform, slightly twisted, mucronate, veinless, when seen under a microscope a little scabrous, veinless, somewhat imbricated, persisting, very numerous. *Peduncles* axillary, crowded at the extremity of the branches, erect, elongated, obscurely scabrous, and having a few scattered ovato-acuminate, blueish bracteæ, but no flowers (unless an abortive one) except at the top, where they form a rather dense, almost capitate spike. *Flowers,* in the bud, slightly tinged with pink, afterwards white, spreading, each sessile in the axil of a bractea, which is larger than those below. *Perianth* pubescent: *tube* curved outwards and obscurely tetragonous; *limb* inflated, bilabiate: upper lip pointed, reflected, the lower-lip of three straight, erect teeth of equal length, but the two outer are a little broader than that in the middle. GRAHAM. If in a state of the bud the perianth be carefully cut open at the faux, where the stamens (three in number anther-bearing) are situated, they will be found, as Mr. BROWN has long ago observed, to be most curiously joined, so that the three anthers constitute but two cells: that is to say, the single lobe of each of the two anthers of the lower lip is conjoined with a lobe of the perfect anther in the upper lip. In flower, the stamens separate, and we find one perfect, two-lobed anther in the middle of the upper lip, and two one-lobed anthers in the lower lip; the other lobe being abortive, and appearing like a subulate appendage: the fourth stamen, which should have occupied the middle of the lower lip, is entirely abortive, and appears like a bipartite scale, with a mucro in the sinus. The *filaments* are very short: the *Anther-lobes* oval, purple-brown: the *pollen* yellow. *Pistil: Germen* free, broadly oblong, narrow below, clothed with silky hairs, and crowned with a beautiful tuft of the same. *Ovule* pendent, obconical. *Style* zigzag, filiform. *Stigma* slightly toothed, clavate, concave.

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* From κωνος, *a cone,* and σπέρμα, *seed,* on account of the shape of the seed.

I have already, at t. 2724 of this work, observed, that some narrow-leaved varieties of C. *taxifolium* approach this species: still I believe it to be distinguished by the shape of this foliage. Seeds were received by Dr. GRAHAM at the Edinburgh Garden, from Mr. FRASER of New Holland, and they flowered both in April 1827 and 1828.

Fig. 1. Flower and Bractea. 2. Section of the Perianth and Anther, to shew the situation of the latter before the expansion of the flower. 3. Perianth in perfection, cut open, to shew the Stamen and Pistil. 4. Section of the Germen, to shew the Ovule.—*Magnified.*

2851

W. H delt

Pub by S. Curtis. Walworth. Sept. 1.1st.

CATTLEYA INTERMEDIA. MIDDLE-SIZE-FLOWERED CATTLEYA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium resupinatum, patens; laciniis subæqualibus. *Columna* libera, semiteres, labello eroso cucullato amplexa. *Anthera* infra-apicularis, opercularis, persistens, columnæ apice subulato supertecta, 4-locularis; septis completis membranaceis marginatis. *Massæ Pollinis* 4, lenticulares, per pares filo elastico granulato in ipsis reflexo connexæ. *Lindl.*

Specific Character.

CATTLEYA * *intermedia;* perianthio subæquali acutiusculo, labello trilobo, lobo medio cordato rotundato, spatha obtusa pedunculum subæquante, caule articulato clavato compresso vix bulboso. *Graham.*

CATTLEYA intermedia. *Graham MSS.*

DESCR. Parasitical. *Root* consisting of several strong, cylindrical, branching fibres, green where exposed to the light. *Stems* numerous, jointed, three to nine inches high, enlarging upwards, but scarcely bulbous, smooth when in vigour, but often deeply furrowed, covered with grey, without blunt, appressed sheaths, green where exposed, terminated by two nearly opposite and equal, spreading, flat, ovato-lingulate, fleshy, veinless *leaves*, five inches long, very slightly notched and mucronate at the apex, yellowish-green when young, afterwards darker. *Spatha* submenbranaceous, blunt, compressed, broad, green, united at its edges, open only at its extremity, two inches long. *Peduncle* scarcely exserted, round, smooth, supporting, at its apex, a single flower, in our specimen: but as there is also an abortive bud, it is probably two-flowered. *Perianth* nearly equal, of an uniform delicate faint lilac colour, inodorous: upper segment two inches and a half long, linear-elliptical, reflexed at the edges, and terminated by a greenish point, the four others two inches long, falcate, undulate

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* So named by Mr. LINDLEY, " in compliment to WILLIAM CATTLEY, Esq. of Barnet, Hertfordshire, a great patron of Botany, and the most ardent collector of rare plants of his day."

late, and more nearly lanceolate, the two inner rather the narrowest. *Labellum* as long as the perianth, and of a rather paler color, curved downwards, compressed, its edges entire, and overlapping above; terminated by three lobes, of which the middle is the largest, projecting forwards, cordato-subrotund, saddle-shaped; all the three jagged at the edges and waved, but the lateral lobes less so, and not spreading: middle lobe of deep purple, mottled with the general color of the labellum or perianth. *Column* half the length of the labellum, shaped like a boat, blunt in the keel, and inverted upon the labellum: there is a round notch at the extremity, with a projecting tooth in the middle, for the attachment of the anther: the sides of this notch project, are truncated, and edged with purple. The general color of the column is the same as the upper part of the labellum, but beautifully streaked with purple, especially on its lower side. *Anther* hemispherical, two-lobed, four-celled: cells linear-oblong, each having a thin, brown margin or rim. *Pollen Masses* four, in two pairs, subovate, plano-convex; the reflected, filamental stalks slightly cohering in each pair. *Stigma* occupying the upper half of the plane, or under, side of the column, concave, large, and coming to a point at the base. *Germen* an inch and a half long, club-shaped, erect, slightly curved, brownish-green, obscurely spotted with purple, and having three longitudinal, double furrows. GRAHAM.

It is with much pleasure that I add a fifth species of CATTLEYA to the four already in cultivation. Its nearest affinity certainly is to C. *Forbesii*, but the general appearance of the flower more nearly resembles C. *labiata*, and it is almost as handsome. C. *Forbesii* could not be distinguished from this by the essential character given by Mr. LINDLEY, in Bot. Reg. t. 953, to which, therefore, must be added the acuminate spatha, much shorter than the peduncle. The habit, as shewn in Bot. Reg. is precisely the same as in C. *intermedia*.

Our plant has further the three-lobed lip and the stem of C. *Loddigesii* and C. *Forbesii;* the approximating perianth of the latter, and of C. *labiata*, together with the form of the perianth and sharply jagged lip of C. *Forbesii*, and the colours and spatha of C. *labiata*, only that this spatha is united at its edges, in which circumstance there is an agreement with C. *Loddigesii;* but in this again the spatha is pointed, and much shorter than the peduncle.

We received our specimens along with many other valuable plants from Mr. HARRIS of Rio Janeiro, by Capt. GRAHAM, of his majesty's Packet service, in 1824. They have been kept in the stove in pots of decayed bark; and the specimen now described flowered for the first time in spring, 1826, but met with an accident before it could be figured or described. It bloomed for the second time in April last (1828), and remained in perfection several days. Other specimens, subjected to the same kind of treatment, have remained without the least alteration in their appearance since they were imported. The subject of the present article is now pushing its roots freely over the pieces of bark. GRAHAM.

Fig. 1. Column of Fructification. 2. Anther-Case, from which the four Pollen Masses, fig. 3, 3, are taken. 4. Side view of a pair of Pollen Masses.—*—Magnified.*

W. J. H. delᵗ
Pub. by S. Curtis Walworth. Sept. 1. 1828.
Swan Sc.

POLYGALA PAUCIFOLIA. FEW-LEAVED MILK-WORT.

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Class and Order.

DIADELPHIA OCTANDRIA.

(Nat. Ord.—POLYGALEÆ.)

Generic Character.

Calycis sepala persistentia, 2 interiora, alæformia. *Pet.* 3—5 tubo stamineo connexa, inferiore carinæformi (forsan e duobus coalitis constante.) *Caps.* compressa, elliptica obovata aut obcordata. *Semina* pubescentia, hylo carunculata, comâ destituta. *D. C.*

Specific Character and Synonyms.

POLYGALA* *paucifolia;* caulibus simplicissimis erectis inferne nudis, foliis ovatis, floribus ternis terminalibus, carina cristata. *D. C.*

POLYGALA paucifolia. *Willd. v. 3. p.* 880. *Pers. Syn. v.* 2. *p.* 272. *De Cand. Prodr. p.* 1. *p.* 331. *Pursh v.* 2. *p.* 464. *Nuttall, Pl. Am. v.* 2. *p.* 87. *Bigelow Fl. Boston. p.* 267. *Elliott, Bot. S. Carolina et Georg. v.* 2. *p.* 180.

TRICLISPERMA grandiflora. *Rafinesque Specch.* 1. *p.* 117.

DESCR. *Root* slender, creeping near the surface, perennial. *Stem* herbaceous, erect, angular, shining, three to four inches high. *Leaves* collected near the top, petioled, ovate, acute at both ends, shining, nearly naked, imperfectly ciliated, sparingly veined, green, red when young, in the lower part of the stem degenerating into ovate,

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* From πολυς, *many,* and γαλη, *milk:* from the supposed quality, in certain plants of this genus, of increasing the quantity of milk given by the cattle which feed upon them.

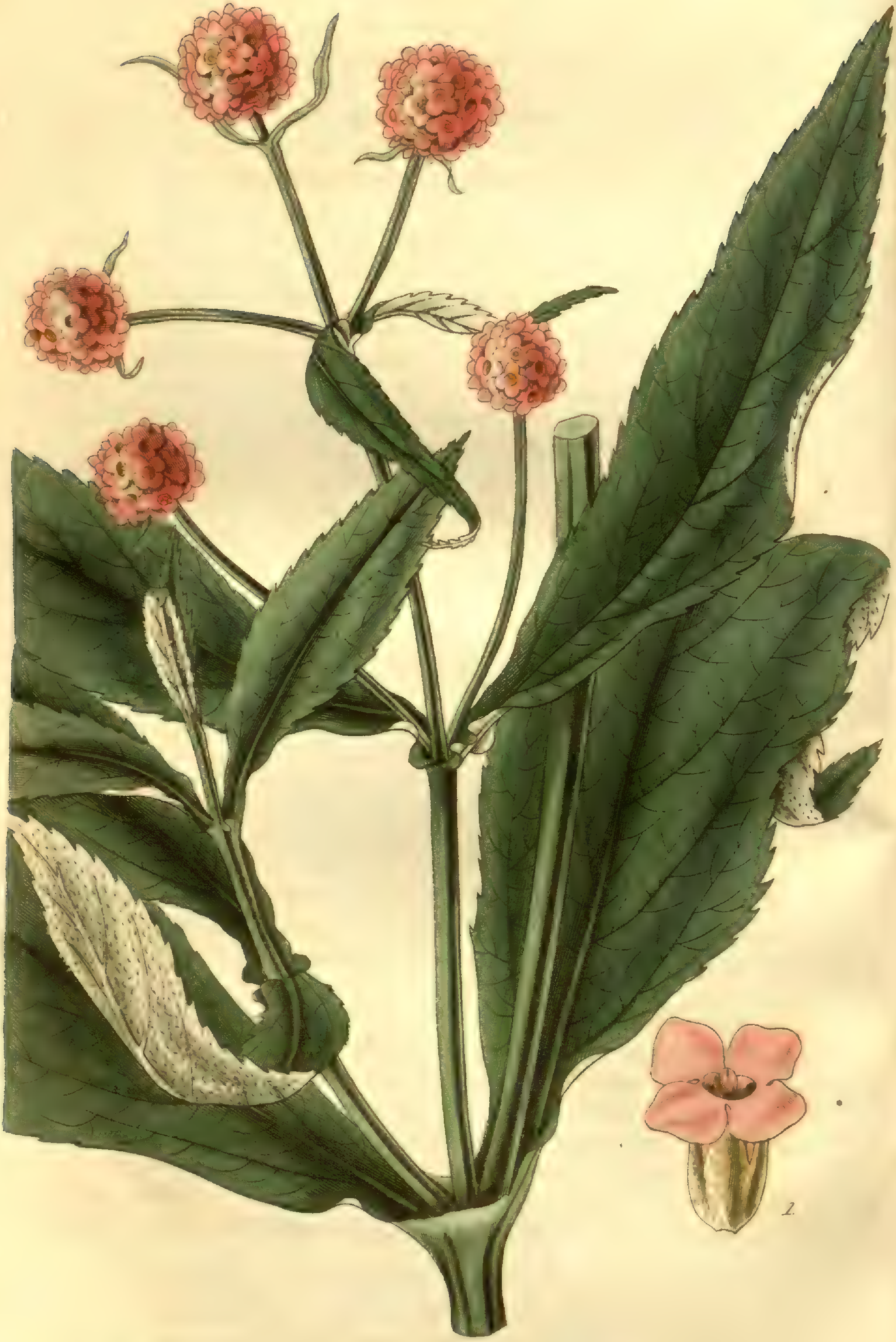
pointed, sessile scales. *Peduncle* generally terminal, though in a few instances the stem is extended beyond it, where it is opposite to the leaf, one, two, or three flowered, very short; *pedicels* lax, half as long as the flowers, angular, red, naked, and shining. *Calyx:* two lowest segments small, lanceolato-ovate, upper segments tumid, ovate, concave, wings spreading, obovate, as long as the wings of the corolla. *Corolla* handsome, three-fourths of an inch long, nectariferous at the base; *petals* three, coalescing below for above half of their length, compressed, the wings overlapping above, slightly arched towards their apices; *keel* after separating from the wings inflated, rounded, edges in contact above, terminated by a purple tipped beard, forming a tuft nearly as large as the inflated portion of the keel; whole flower of a beautiful purple, indistinctly veined and pale, almost white on its lower side. *Stamens* six; *filaments* united to the inside of the petals to the point where these separate from each other, after which they project forward in two equal, opposite bundles, smooth, flattened, colourless; *anthers* terminal, obscurely bilobed, yellow. *Stigma* truncated, obscurely bordered, bilabiate, lips diverging, the upper largest and pointed: *Style* clavate, bent, colourless towards the stigma, purple below: *Germen* unequally obcordate, green, compressed.

NUTTALL quotes, though with doubt, the POLYGALA *uniflora* of MICHAUX as a synonym for this species; but as it is beardless, which no specimen, even imperfect, of this plant, ever is, and as the inflorescence is quite different, they must be distinct, though P. *paucifolia* has often one flower only. This species is altogether overlooked by MICHAUX. DE CANDOLLE, in his Prodromus, mentions the P. *purpurea* of Hortus Kewensis, as the same with P. *paucifolia,* although the former plant is stated in that work to be woody.

This beautiful little plant flowered sparingly last year in the Nursery Gardens of Mr. CUNNINGHAM, at Comely Bank, near Edinburgh, having been introduced from Canada by Mr. BLAIR. During the month of May, 1828, it has blossomed abundantly, and formed one of the most pleasing objects in Mr. CUNNINGHAM's extensive collection. Its roots spread widely among loose vegetable soil, and in a cool frame, under the shade of the garden wall. GRAHAM.

Fig. 1. The three outer Leaflets of the Calyx. 2. One of the inner ditto. 3. The combined Petals. 4. Stamens. 5. Pistil.—*Magnified.*

2853



W. J. H. del.ᵗ

Pub. by S. Curtis, Walworth. Sept. 1 1828.

BUDDLEA CONNATA. CONNATE-LEAVED BUDDLEA.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord.—VITICES.)

Generic Character.

Cal. 4-fidus. *Cor.* 4-fida. *Caps.* bilocularis, dissepimentum e marginibus valvarum. *Semina* paleacea.

Specific Character and Synonyms.

BUDDLEA* *connata;* foliis lanceolatis serratis connatis basi auriculatis subtus pubescenti-tomentosis, pedunculis ternatim divisis, floribus capitatis.

BUDDLEA connata. *Ruiz et Pav. Fl. Peruv. v.* 1. *p.* 52. *t.* 81. *f.* b. *Roem. et Schult. v.* 3. *p.* 152. *Spreng. Syst. Veget. v.* 1. *p.* 431.

DESCR. *Plant* suffrutescent, erect, branched, four to five feet high, *branches* obscurely angular, glabrous above, pubescent. *Leaves:* the largest of them six to seven inches long, lanceolate, serrated, glabrous on the upper surface, pubescent and even white and tomentose beneath, the base attenuated, entire, till at the connate bases, where the margin is waved, and generally dilated into an ear-like appendage on each side; but in the older leaves, the margin is there quite regular. From the axils of these leaves, in our specimens, spring the flower-stalks, angular, with one or two pairs of opposite branches, which, with the centre axis, make them appear ternately divided; each branch or pedi-

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* In honour of ADAM BUDDLE, an English Botanist of the last century, whose Herbarium is deposited in the British Museum.

cel bearing a globose head of deep orange-coloured, powerfully-scented flowers, resembling that of honey. Beneath each head of flowers is a pair of small linear-lanceolate leaves. *Calyx* almost as long as the tube of the flower, pubescent; segments acute. *Corolla* with the tube externally pubescent, limb spreading, the segments obtuse, the mouth a little hairy. *Stamens* inserted near the mouth of the tube. *Style* as long as the corolla: *Stigma* obtuse, slightly notched, green.

All that has hitherto been known of this species of Buddlea, is from the figure and description of Ruiz and Pavon, who found it an inhabitant of the province of Chancay. The seeds from which our plants were raised, were sent to the Glasgow Botanic Garden from Valparaiso, by A. Cruickshanks, Esq. It forms a handsome greenhouse shrub, flowering in the beginning of May, and remarkable for its curiously connate foliage.

Ruiz and Pavon's figure, indeed, differs slightly from ours, in the crenated, not serrated margin of the leaves, and in those crenatures extending down to the auriculated base. In the older leaves these auricles become obsolete.

Fig. 1. Flower.—Slightly *magnified.*

2854.

W. J. H. del.ᵗ Pub by S. Curtis Walworth, Sept 1. 1888. Swan Sc

(2854)

ERIOSTEMON SALICIFOLIUS. WILLOW-LEAVED ERIOSTEMON.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—RUTACEÆ.)

Generic Character.

Cal. 5-partitus. *Pet.* 5. *Stam.* 10, filamentis hispidis ciliatis aut nudis, antheris terminalibus. *Stylus* brevissimus. *Carpella* 5, basi coalita. *Semina* in loculis 2, aut abortû solitaria. *Embryo* subcurvatus, *radicula* longa. *Frutices* arboresve nunc Diosmis nunc Croweis, nunc Phebaliis affines, foliis alternis simplicibus, floribus axillaribus. *D C.*

Specific Character and Synonyms.

ERIOSTEMON* *salicifolium;* foliis lineari-lanceolatis integerrimis glabris, ramulis triquetris, floribus axillaribus subsessilibus basi bracteolatis solitariis, calycibus petalisque extus canescentibus, filamentis hispidis. *D C.*

ERIOSTEMON salicifolium. *Smith in Rees' Cycl. D C. Prodr. v.* 1. *p.* 720. *Adr. Juss. Rutac. t.* 21. *f.* 25. *Spreng. Syst. Veget. v.* 2. *p.* 321.

CROWEA saligna. *Sieber. Fl. Nov. Holl. No.* 294.

CROWEA scabra. *Graham in Edin. N. Phil. Journ.* 1827, *p.* 174.

DESCR. An erect *shrub,* with the *stem* more or less rounded, the branches triquetrous, often scabrous. *Leaves* scattered, erecto-patent, linear-oblong, somewhat falcate, coriaceous, quite entire, a little concave in front, roughish, veinless; the midrib obscurely prominent behind, nearly obsolete on the superior surface. *Flowers* axillary, solitary, pale lilac, on short scaly pedicels; *pedicels* slightly downy. Graham. *Cal.* deeply quinquefid, of five rounded, equal, somewhat downy, fringed lobes, small in proportion to the corolla. *Petals* oblong, or ovato-oblong, with three lines in the centre. *Stamens* ten, hypogynous, incurved and connivent at the top. *Filaments* alternately longer, tapering, white, with numerous spreading hairs in the front at the margin: the longer ones with a swelling, which is beset with small, spherical glands, just beneath the *anther*, but ovate-acuminated, largest on the shortest filament, and the last to discharge the pollen, which is of a deep orange colour. *Pistil* much shorter than the stamens: *Germen* of five lobes, dotted with glands seated upon a fleshy base; each lobe is one-celled, and has two ovules: *Style* of five united into one, which scarcely rises above the lobes of the germen, is sunk between them, and which at the base has a few white hairs.

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* From εριον, *wool,* and ϛημων, *a stamen:* the filaments of the stamens being more or less woolly, or hairy.

Communicated from the Edinburgh Botanic Garden, by Dr. Graham, who described it in Jameson's Journal, under the name of Crowea *scabra*. I fear, that I may have myself, from too hasty a comparison of the plant, have been accessory to that gentleman's considering it to be a Crowea: for it is the same as what is sent by our valued correspondent Mr. Fraser, under the name of Crowea *saligna*, and Dr. Sieber has published it under that name. It is, however, as Dr. Graham has ascertained, a true Eriostemon, and certainly the E. *salicifolium*, which is admirably described by Sir James Smith, in Rees's Cyclopedia, where, as well as by De Candolle, it is acknowledged to have quite the appearance of a Crowea.

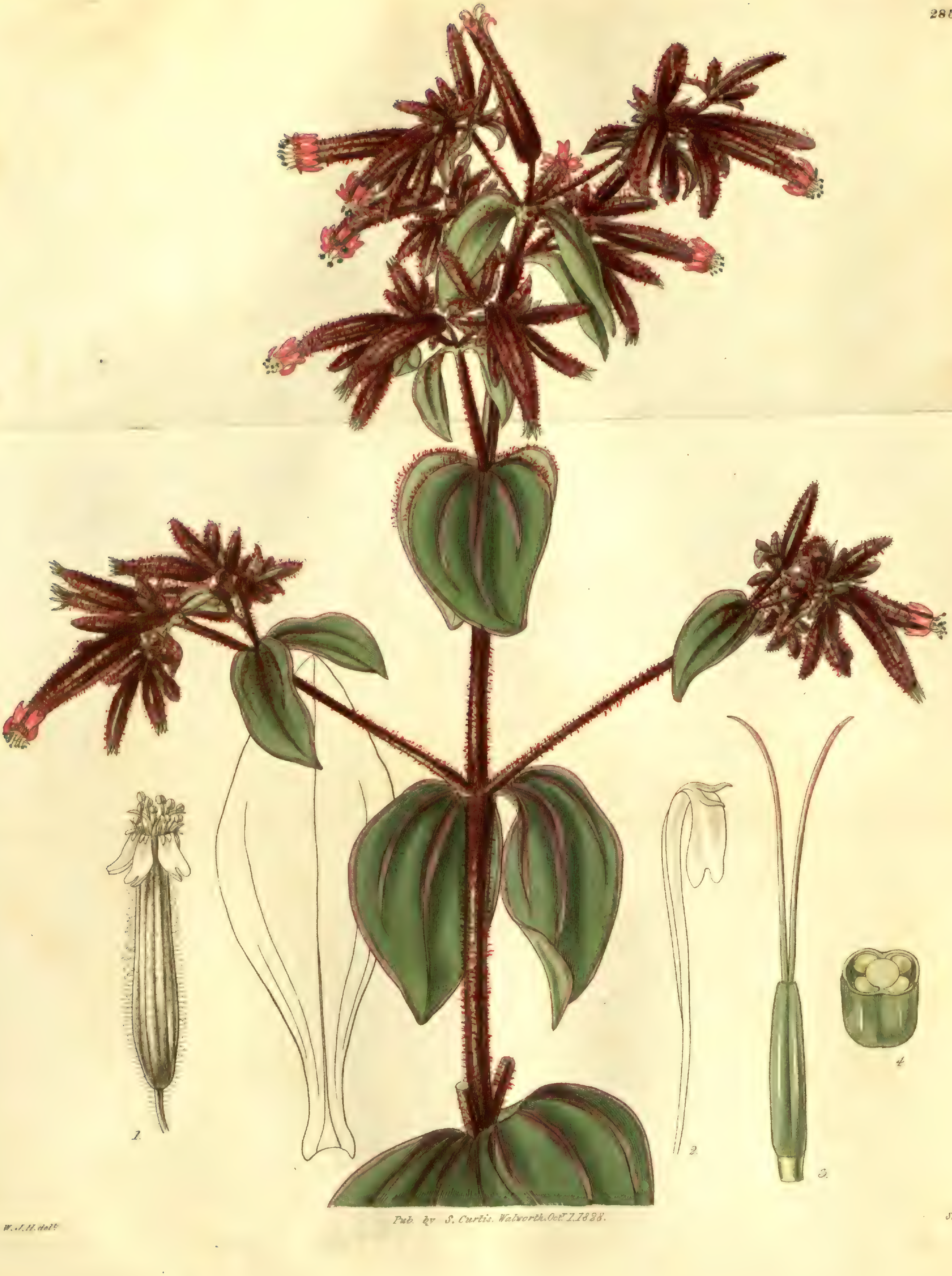
Its flowering season is April: but it does not grow freely, though treated with the same care as the generality of New Holland plants: but it is unquestionably one highly deserving of cultivation.

It was introduced to the gardens of this country by Mr. Fraser, and to him we are likewise indebted for our dried specimens.

It is curious, that Sprengel makes Eriostemon masculine, Smith feminine, and De Candolle neuter:—the former is surely correct, ϛῆμα, *a stamen*, is indeed neuter; but στημων, ονος is masculine, from which our word immediately comes.

Fig. 1. Petals. 2. Shorter Stamen, back view. 3. Longer Stamen, back view. 4. Upper Part of the Stamen, front view. 5. Ditto of the Upper Part of a longer Stamen. 8. Scaly Pedicel and Calyx.—*Magnified.*

2855.



W. J. H. delt

Pub. by S. Curtis, Walworth, Octr. 1. 1828.

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SAPONARIA GLUTINOSA. CLAMMY-STALKED SOAPWORT.

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Class and Order.

DECANDRIA DIGYNIA.

(Nat. Ord.—CARYOPHYLLEÆ.)

Generic Character.

Cal. cylindricus, basi nudus. *Petala* 5, unguiculata. *Capsula* oblonga, uni-bilocularis.

Specific Character and Synonyms.

SAPONARIA* *glutinosa;* floribus fasciculato-corymbosis, calycibus glanduloso-hispidis viscosis striatis, petalis faux coronatis apice 2-dentatis, foliis ovatis nervosis. *Spr.*

SAPONARIA glutinosa. *Bieb. Fl. Taur. Cauc. v.* 1. *p.* 322. "*Cent.* 2. *t.* 66." *De Cand. Syst. Veget. v.* 1. *p.* 365. *Spreng. Syst. Veget. v.* 2. *p.* 374.

SILENE Armeria. *Pall. Ind. Taur. (Bieb.)*

DESCR. *Plant* apparently biennial, from one to two feet high when cultivated, with a roundish erect *stem,* having many, opposite, reddish-purple branches, and, as is the whole plant, clothed with glandular, viscid hairs, much fewer upon the leaves, especially upon the lower ones. *Leaves* opposite, ovate; the uppermost ones cordate, sessile and subperfoliate; those at the base attenuated into a broad, flat petiole; all of them entire at the margin, and having three red nerves. *Flowers* in threes, collected into dense terminal, panicles, upon the stems and branches, with small, leaf-like *bracteæ* at the base of the divisions. *Calyx* purple, cylindrical, an inch or an inch and a half long, very glandular and viscid, five-toothed, and having ten striæ. *Petals* five: *Claw* very long; *limb* very small, deep rose colour, linear, recurved between the teeth of the calyx, bidentate, at their base having a bipartite gland or nectary. *Stamens* ten. *Anthers* purple, roundish. *Pistil: Germen* on a short, thick pedicel, green, with a longitudinal furrow on each side: *Styles* two, filiform, as long as the stamens, purple at the extremity: *Stigmas* acute. The fruit I have not seen, but the germen is evidently two-celled.

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* Saponaria—from *sapo,* soap. Because the bruised leaves of one species, S. *officinalis,* are said to form a lather when agitated in water.

An inhabitant of the Taurian mountains, according to BIEBERSTEIN, its original discoverer, growing along the margins of woods in sterile places, particularly abundant about Temirdschi. I possess a specimen from SIEBER's Cretan collection, gathered at Lassiti, which differs in no respect from that here figured, but in being smaller, and having the leaves narrower, and the radical ones upon longer petioles. It is a very desirable plant for the garden. The flowers, though small, are of a vivid red, and the purple calyces and stems and nerves to the leaves have a rich effect.

Cultivated in the Glasgow Botanic Garden, where it was raised from seeds sent by Dr. FISCHER from St. Petersburg. It flowers in the month of June.

Fig. 1. Flower. 2. Petal. 3. Pistil. 4. Section of a Germen.—*Magnified.*

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W.J.H. del.

Pub. by S. Curtis, Walworth, Oct. 1 1828

Swan sc.

IMATOPHYLLUM AITONI. HANDSOME-FLOWERED IMATOPHYLLUM.

Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—AMARYLLIDEÆ.)

Generic Character.

Flores umbellati, spathacei, nutantes. *Perianthium* superum, subcurvatum, sexpartitum, tubulosum, laciniis subæqualibus. *Stamina* basi submonadelpha, tubo inserta, perianthio longiora. *Germen* globosum, hexagonum: *Stylus* filiformis, exsertus: *Stigma* trifidum. *Bacca* globosa, trilocularis, loculis trispermis.

Habitus *Cyrtanthi; sed* radix *fibrosa:* folia *numerosa, loricata, disticha, marginata:* umbella *multiflora, floribus vix curvatis, limbo perianthii profunde sexpartito:* stamina *exserta.*

Specific Name.

IMATOPHYLLUM * *Aitoni.*

DESCR. *Root* perennial, consisting of numerous large and thick, fleshy, simply or branched fibres. *Leaves* radical, long, spreading out in a distichous manner, strap-shaped, flat, striated, green, with a diaphanous, jagged margin, the apex blunt, almost retuse, the bases sheathing each other, and purplish. On breaking a leaf, a greenish, gelatinous fluid exudes in considerable quantity, which has the flavor and smell of a fully ripe apple. From the centre of these leaves arise one or more erect, rounded *scapes*, with a large

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* From Ιμας, ιματος, *a thong, or strap,* and φυλλον *a leaf,* from the shape of the foliage.

umbel at the extremity, of handsome, numerous, drooping flowers, accompanied by a many-leaved spatha, which soon withers. *Peduncles* filiform, glabrous. *Perianth* superior; of six somewhat incurved and slightly unequal, lanceolate, acute, orange-green segments, united at the base into a tube. *Stamens* six, inserted at the top of this tube, and, at the very base of the filaments, monadelphous: longer than the perianth. *Anthers* oblong, yellow, fixed near the centre of the back; the cells opening at the sides. *Germen* globose, with six angles and three cells, each with three ovules: *Style* longer than the stamens, filiform: *Stigma* trifid. *Fruit,* a large, three-celled, red *Berry,* containing about six, somewhat triangular, whitish seeds, clothed with a double integument; the outer loose and pulpy. *Albumen* between waxy and horny. *Embryo* cylindrical.

Mr. Bowie, who so successfully explored the Botany of Southern Africa, and enriched the Royal Gardens at Kew with many of its choicest productions, in the summer of last year, immediately previous to his return to the Cape, mentioned to me a Cyrtanthus-like plant, which he had there found and imported, and which, if it blossomed in this country, he desired might bear the Specific Name of his patron, Mr. Aiton. At the same time, the letter enclosed one or two of the wild specimens of the flowers, and a small piece of the leaf; from which it was evident that, however closely allied the plant might be to Cyrtanthus, it could not rank in the same Genus.

A specimen having flowered in October of last year, in the noble gardens at Sion House, Mr. Forrest, under whose skilful charge is placed the whole of those truly princely collections, kindly requested His Grace the Duke of Northumberland's permission for a drawing to be made of the plant, from which, the accompanying figure is copied. Mr. Aiton has likewise been so obliging as to send me a drawing and specimens of the fruit, with the particulars of its habitat, extracted from Mr. Bowie's notes: "on shaded spots, near Quagga flats, and more common in the Albany tracts, near the great Fish River."

Fig. 1. Lower part of a Plant, to shew the Root. 2, 3. Flowering Scape and portion of a leaf, *natural size.* 4. Flower, from which the segments of the Perianth are removed. 6. Anther. 7. Pistil. 8. Section of the Germen. 9. Berry, *natural size.* 10. Seed, *natural size.* 11. Section of ditto.—Figures 4—8 *magnified.*

H. del^t

Pub by S. Curtis Walworth. Oct^r 1. 1828.

(2857)

SIDA SESSILIFLORA. SESSILE-FLOWERED SIDA.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—MALVACEÆ.)

Generic Character.

Calyx nudus, 5-fidus, sæpe angulatus. *Stylus* apice multifidus. *Carpella* capsularia 5—30 circa axim verticillata, plus minusve inter se coalita, 1-locularia, mono- aut oligosperma, apice mutica aut aristata. *D C.*

Specific Character.

SIDA * *sessiliflora;* mollissima pubescens, subherbacea (?), foliis cordatis acutis serratis, floribus subglomeratis sessilibus axillaribus terminalibusque, capsulis 10 pubescentibus muticis, corolla calyce vix duplo longiore.

DESCR. *Plant,* in our stove, from two to three feet high, having the stem rounded, branched, soft with very numerous short hairs, and apparently more herbaceous than woody. *Leaves* rather distantly placed, beautifully soft with short hairs or down (as is every part of the plant), exactly cordate, rather acute, veined, distinctly serrated, darkish green, paler beneath. *Petiole* about as long as the leaf, swollen just beneath its insertion on the leaf, and, at the base, having on each side a subulate stipule. The flowers are small, generally produced two together, in the

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* From σιδη, an ancient Greek name, supposed to have been applied to some plant allied to the Marsh-Mallow.

axils of the superior leaves, or clustered at the extremity of the branches, all sessile, or having so short a pedicel as to appear destitute of any. *Calyx* cup-shaped, with five acute, almost erect segments. *Corolla* yellow, a little inclining to orange; *petals* roundish or obcordate. *Stamens* numerous, united by their filaments into a tube, yellow. *Pistil: Germens* ten, pubescent, united around the base of the style, destitute of spines: *Styles* ten, united in their lower half: *Stigmas* clavate.

The seeds of this, which I take to be an undescribed species of SIDA, were sent from MENDOZA in South America, by Dr. GILLIES, and produced plants, which flowered in the stove of the Glasgow Botanic Garden, in November, 1827. The flowers are very small, and not possessed of bright colours; so that, as an ornamental plant, it is scarcely worthy of cultivation.

There seem to be few species of this Genus described whose flowers are sessile, or subsessile. Amongst them is the S. *pellita* of KUNTH (*holosericea* of SPRENG.); but that has birostrate capsules, and the S. *verticillata*, which is said to be a *somewhat hairy* plant, and to have only five birostrate capsules.

Fig. 1. Pistil.—*Magnified.*

2858.

W. J. H. delt.

Pub. by S. Curtis Walworth, Octr. 1 1828.

Swan sc.

SIEVERSIA TRIFLORA. THREE-FLOWERED SIEVERSIA

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Class and Order.

ICOSANDRIA POLYGYNIA.

(Nat. Ord. —ROSACEÆ.)

Generic Character.

Cal. 10-fidus, laciniis alternis minoribus. *Pet.* 5. *Caryopses* stylis rectis coronatæ. *Spr.*

Specific Character and Synonyms.

SIEVERSIA* *triflora;* foliis radicalibus interrupte pinnatis pilosis, foliolis cuneatis inciso-dentatis, caule simplici sub-3 floro, petalis calycem æquantibus, aristis longissimis villosis. *Spr.*

SIEVERSIA triflora. *Brown in Parry's First Voy. App. p. cclxxvi. in adnot. Richardson in Frankl. Journ. ed.* 2. *App. p.* 21. *Spreng. Syst. Veget. v.* 2. *p.* 543.

GEUM triflorum. *Pursh Fl. of N. Am. v.* 2. *p.* 736. *(in Suppl.) De Cand. Prodr. v.* 2. *p.* 553. *Richardson in Frankl. Journ. ed.* 1. *App. p.* 740.

DESCR. *Root* perennial, woody, subfusiform, throwing out from beneath many radicles. *Leaves* radical, from four to six inches or more in length, with an oblong or obovate outline; interruptedly pinnated; the pinnæ placed close to each other, often imbricated; the upper ones more or less united at their base; all of them pubescenti-hirsute, subcuneate, nerved, with the margins deeply cut and serrated;

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* So named by WILLDENOW, probably after some Botanist of the name of SIEVERS, but of whose history I am ignorant.

gradually becoming smaller towards the base: *Petiole* dilated, grooved. *Scape* from eight or ten inches to a foot high, terete, purplish, clothed with soft hairs, bearing two deeply-pinnatifid and laciniated leaves or large bracteæ above the middle, which are connate at the base, and terminate in a three-flowered umbel. There are again two large, laciniated bracteæ, similar to those just mentioned, at the base of the pedicels; and the two lateral ones have similar bracteæ near their middle, while the central flower is destitute of them. These *pedicels* are from three to four inches long, each terminated with a solitary, drooping flower. *Cal.* dark purple, with five, erect, large inner laciniæ, and five external, smaller, patent ones. *Petals* oblong, not longer than the calyx, white, purplish-red at the extremity and at the margins, never spreading. In the centre of the flower is a short, five-lobed, fleshy cup, around which, and beneath it, are the hairy *stamens:* and in the centre of which is an elongated, conical receptacle, with many elongated tubercles, upon which the *Pistils* are jointed. *Germen* hairy, tapering gradually into the arista-like *style: Stigma* obtuse.

A very little known inhabitant of North America, having been first detected by Mr. BRADBURY (some of whose specimens are in my Herbarium) in Upper Louisiana, and described by PURSH in the Supplement to his Flora. Mr. GOLDIE found it on the banks of Ohio; Dr. RICHARDSON during his and Captain FRANKLIN's first expedition; Dr. MORISON gathered it in Labrador; and Mr. CORMACK in Newfoundland; and at length Mr. BLAIR brought living plants from North America, (the White Mountains) which flowered in the collection of Mr. CUNNINGHAM near Edinburgh. But the finest specimens I have ever seen are amongst Mr. DRUMMOND's plants, gathered on the alpine prairies of the Saskatchawan.

It is quite hardy and has the same graceful appearances, and subdued, but agreeable colour, as our GEUM *rivale,* and which caused that plant to be so great a favourite with the late Sir JAMES SMITH. Indeed, the habit of the two is so very similar, that it seems almost unnatural to separate them into different genera, on account of the slight difference in the style.

Fig. 1. Petal. 2. Cup-shaped body in the centre of the Flower, from around which, all but one Stamen is removed. 3. Receptacle of the Pistils, with a single Pistil remaining upon it.—*Magnified.*

W. J. H. del.t

Pub by S. Curtis Walworth Oct.r 1. 1828.

PULTENÆA PEDUNCULATA. PEDUNCULATED PULTENÆA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord. — LEGUMINOSÆ.)

Generic Character.

Cal. 5-fidus, labiis proportionatis, bibracteatus (bracteis sæpius ipso tubo insidentibus). *Cor.* papilionacea. *Germ.* sessile, dispermum. *Stylus* subulatus, adscendens. *Stigma* simplex. *Stropheola* seminis lobis posticis incisis.

Specific Character.

PULTENÆA* *pedunculata;* pedunculis binis elongatis terminalibus, fructibus lateralibus, foliis lineari-lanceolatis planis ramisque adpresso-pilosis.

DESCR. A low growing shrub, with slender, flexuose branches, which are deflexed, especially the lower ones, pubescent; branchlets numerous. *Leaves* scattered, small, linear-lanceolate, sessile, clothed with many appressed hairs, plane, dark green above, paler and marked with a midrib beneath: at their base on the upper-side are two brown membranaceous stipules, which stand upright and are appressed to the stem. *Flowers* in pairs from the extremity of the young branches: but they afterwards appear lateral from the prolongation of their branches. *Peduncle* an inch or more in length, slender, filiform, flexuose. *Calyx* red, green at the base, and with green lines corresponding with the centre of each of the five acuminated teeth. There

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* In honour of Dr. RICHARD PULTENEY, an excellent Natural Historian.

is a pair of linear subulate bracteæ, one on each side of the calyx, and inserted on the tubular part. *Vexillum* obcordate, and, as well as the alæ, bright yellow. *Carina* rather shorter than the alæ, reddish, deeper within. *Stamens* 10, free: *Germen* ovate, hairy, gradually tapering into an adscendent, glabrous *style:* *Stigma* a small, rather acute point.

The seeds of this species of PULTENÆA were sent with many others from New Holland by Mr. FRASER, the government Botanist in that Colony. It is distinguished from all the others of the Genus by its pedunculated flowers, and especially from the PULTENÆA *tenuifolia* of Mr. BROWN in Bot. Mag. t. 2086, which is unquestionably a nearly-allied species. But the latter has, besides the sessile flowers, much narrower (linear-subulate) leaves, covered with long and spreading hairs, the upper side being concave, the lower convex. The branches and calyces are likewise clothed with soft hairs.

Its flowering season with us, in the greenhouse, is the month of May.

Fig. 1. Portion of the Stem with Leaves and Stipules. 2. Single Leaf and Stipules. 3. Flower. 4. Carina. 5. Stamens and Pistil. 6. Pistil.—*Magnified.*

W. J. H. delt.
Pub. by S. Curtis, Walworth, Octr. 1 1828.
Swan

DODONÆA ATTENUATA (MAS.). ATTENUATED LEAVED, DODONÆA.

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Class and Order.

OCTANDRIA MONOGYNIA.

(Nat. Ord.—SAPINDACEÆ.)

Generic Character.

Flores sæpe abortu polygami aut dioici. *Cal.* 4-partitus, deciduus. *Pet.* o. *Stam.* 8, filamentis brevissimis, antheris oblongis linearibusve. *Stylus* filiformis ab alis capsulæ distinctus, apice subtrifidus. *Capsula* 2—3 valvis, 2—3-loc. 2—3-alata, angulo centrali 2—3-angulato in faciebus seminifero. Semina bina subglobosa. Frutices *foliis oblongis* sæpius viscosis. *D C.*

Specific Character and Synonym.

DODONÆA* *attenuata;* foliis lineari-spathulatis basi attenuatis subverrucosis rigidis, marginibus subrevolutis dentatis, floribus dioicis, racemis terminalibus axillaribusque, calycibus demum reflexis viscidis. *Graham.*

DODONÆA attenuata. *Cunningham in Field's New South Wales, p. 353.*

DESCR. *Shrub* erect; *stem* round, with brown, cracked bark; *branches* scattered, slightly compressed. *Leaves* scattered, sessile (three inches long, one quarter of an inch broad), spreading, linear-spathulate, with a small mucro at the apex, which is not always distinct; much attenuated at the base, rigid, rough, with minute warty elevations on

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* After DODOENS or DODONÆUS, a learned Belgian Botanist and Physician, who flourished in the sixteenth century.

the upper surface; middle rib strong and prominent both above and below; *veins* few and obscure, the margin slightly reflected, toothed. *Racemes* terminal and axillary, rarely compound, bractea; *rachis, pedicels,* and *calyx* slightly hairy and viscid. *Bracteæ* subulate, solitary at the base of each pedicel and shorter than it. *Flowers* nodding; segments acute, reflected, light green, deciduous with the other parts of the flower. *Stamens* eight; *Filaments* very short. *Anthers* large, bilocular, and each lobe deeply grooved, bursting along the side, erect, and arranged in a square form around the centre of the flower, yellow. *Pollen* abundant, sphærical, yellow. *Pistil* abortive.

Seeds of this plant were received at the Edinburgh Botanic Garden, in 1824, from Mr. FRASER, Colonial Botanist, New South Wales. It flowers freely in the greenhouse, in the months of February and March. GRAHAM.

Professor GRAHAM considered that this plant might probably be the DODONÆA *angustissima* of DE CANDOLLE, which is among the *species dubiæ* of that author. But the character is so short, that it is impossible to refer any species decidedly to it. The present plant is, however, unquestionably the DOD. *attenuata* of Mr. ALLAN CUNNINGHAM's account of some new plants, published in Mr. BARRON FIELD's *"Memoirs relating to New South Wales"*. That indefatigable Botanist found it in the channel of Cox's River.

We possess in our Herbarium likewise, specimens gathered by Mr. FRASER among the Blue Mountains; some of them being females, have given me the opportunity of representing a flower of that sex and likewise the fruit. The former has a tripartite, reflexed, calyx; an ovate triangular germen, a filiform style, and a clavate wrinkled stigma. The capsule has three broad, diaphanous nerved wings.

Fig. 1. Male Flower. 2. Stamens. 3. Pollen. 4. Female Flower. 5. Capsule (*nat. size*). 6. Capsule.—All but Fig. 5. more or less *magnified*.

W. J. H. del.

Pub. by S. Curtis, Walworth, Octr 1 1828.

Swan Sc.

IRIS LUTESCENS. PALE YELLOW IRIS.

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Class and Order.

TRIANDRIA MONOGYNIA.

(Nat. Ord. — IRIDEÆ.)

Generic Character.

Cor. 6-partita: laciniis alternis reflexis. *Stigmata* petaliformia.

Specific Character and Synonyms.

IRIS* *lutescens;* barbata; scapo brevissimo subunifloro, foliis glaucis, spatha erecta tubum corolla ante involvente, pistilli laminis obtusis erectis. *Spr.*

IRIS lutescens. *Lam. Encycl. v.* 3. *p.* 285. *Willd. Sp. Pl. v.* 1. *p.* 225. *Red. Liliac. v.* 5. *t.* 263. *Ait. Hort. Kew. ed.* 2. *v.* 1. *p.* 118. *Roem. et Schultes, Syst. Veget. v.* 1. *p.* 464.

IRIS virescens. *Red. Liliac. v.* 5. *t.* 295 ?

DESCR. Stem leafy, flexuose, about seven inches high, nearly round, one-flowered. *Leaves* scymitar-shaped, and a little turned forward at the point, partially glaucous or subpruinose; ribbed, the lowest equal in length to the stem, the other shorter, sheathing the stem; sheaths compressed and bordered. *Spathe* bivalvular, longer than the tube of the corolla; valves pointed, herbaceous, green, membranous and withered towards their apices; outer valve rather the broadest, but scarcely longer than the other, erect; the inner sheathing the tube of the corolla, and slightly inflated. *Peduncle* about three-eighths of an inch long, nearly round, succulent and almost colourless;

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* From the varied hues and colours of the flower, as those of the rainbow.

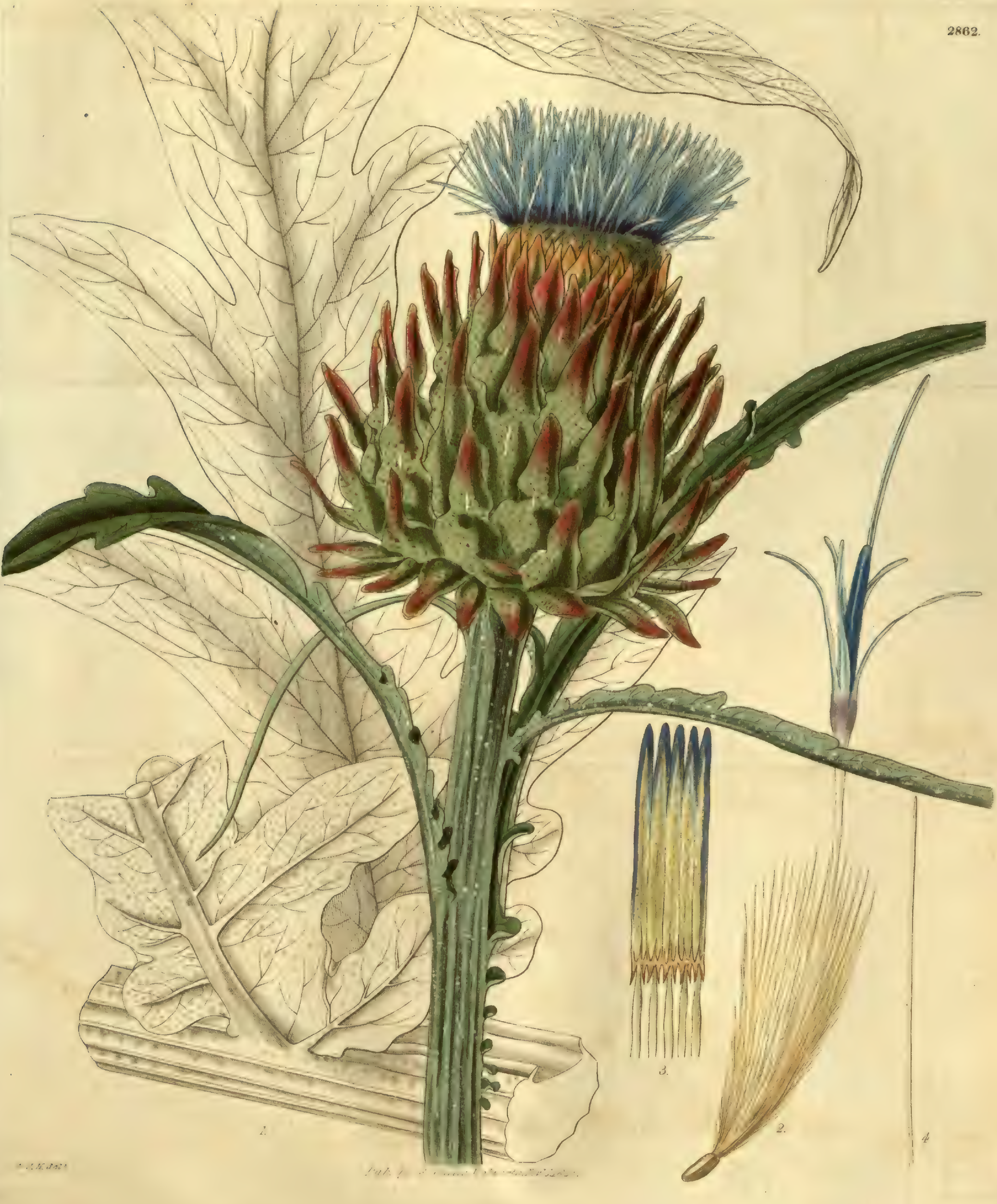
by its side within the spathe there is a small awl-shaped thread, the abortive representation of a second peduncle. *Corolla* pale yellow, delicate; nearly the whole of the outer segments, and the claws of the inner, streaked with pale brown; segments undulate, crenulate, especially towards their extremities, of about equal length; outer ones rolled backwards, bearded with yellow hairs, spathulated, tapering gradually towards their base; inner ones the broadest, bent across the centre of the flower above the stigmata, oblong and decurrent upon long winged claws, which are slenderer than those of the outer segments. All the segments when decaying have their claws adpressed to the style, and their laminæ folded over the middle of the flower, so as entirely to close it. *Tube* exceeding an inch in length; *limb*, including the claws, about two and a half inches. *Stamens* shorter than the stigmata; *filaments* subulate, adhering to the corolla as high as the base of the hairy line; *anthers* white, equal in length to the free portion of the filaments. *Stigmata* broader than the portion of the reflected segments of the corolla, which they cover, about one inch and a quarter long, upper lip erect, its segments pointed, inciso-serrated. *Style* three-sided, free for about half an inch, below which it is united to the tube of the corolla. *Germen* half an inch long, green, trigonous, marked along the middle of each side by a slightly prominent line, opposite to the insertion of the dissepiments. *Ovules* obovate, attached to the central column.

This is certainly the IRIS *lutescens* of the authors above quoted; though STEUDEL (Nomenclator Botanicus) says it is not that of LAMARCK; and he refers the I. *lutescens* of WILLDENOW and Hort. Kew. to I. *virescens* of DE CANDOLLE, which SPRENGEL again considers to be I. *variegata;* but this species, as figured in Bot. Mag. t. 16, is held distinct from our plant, by its many-flowered stem, and by the appearance of its spatha. The I. *lutescens* of SPRENGEL, erroneously attributed to LAMARCK, is quite different from our plant; and it is at once distinguished by the obtuse upper-lip of its stigma, and the shortness of its stem. It is, probably, one of the modifications of I. *pumila*, var. *lutea*, Bot. Mag. t. 1209.

The subject of the present article was given to us by DAVID FALCONER, Esq. in whose garden at Carlowrie, near Edinburgh, (distinguished especially for being rich in this genus), it flowered in May, 1828; but our figure was taken from a second specimen, sent by him from the garden of Messrs. DICKSON & Co. seedsmen, in Edinburgh.

According to LAMARCK, this species of IRIS is a native of hilly, stony places in France and Germany. GRAHAM.

2862.



W.J.H. del.

Pub. by S. Curtis Glazenwood Essex.

(2862)

CYNARA CARDUNCULUS, β. CARDOON, UNARMED *var.*

Class and Order.

SYNGENESIA POLYGAMIA ÆQUALIS.

(Nat. Ord. — COMPOSITÆ.)

Generic Character.

Squamæ involucri basi carnosæ, spinosæ. *Receptaculum* carnosum, paleis fissis munitum. *Pappus* sessilis, plumosus. *Spreng.*

Specific Character and Synonyms.

CYNARA* *carduncutus ;* foliis decurrentibus pinnatifidis subtus albo-tomentosis spinulosis, squamis involucri ovato-oblongis.

CYNARA carduncutus. *Spreng. Syst. Veget. v.* 3. *p.* 368.

(*α.*) foliis angustis squamisque receptaculi valde spinosis. CYNARA carduncutus. *Linn. Sp. Pl. p.* 1159. *Willd. Sp. Pl. v.* 3. *p.* 1691. *Desfont. Fl. Atl. v.* 2. *p.* 248. *De Cand. Fl. Fr. v.* 4. *p.* 108. *Ait. Hort. Kew. ed.* 2. *v.* 4. *p.* 487. *Pers. Syn. Pl. v.* 2. *p.* 384.

CYNARA sylvestris. (ARTICHAUT sauvage.) *Lam. Dict. v.* 1. *p.* 277.

SCOLYMUS aculeatus. " *Tabern. Ic.* 697."

(β.) foliis angustis fere inermibus, involucro superne contracto squamis obtuse spinosis. Cultivated Cardoon. *Ic. nostr. t.* 2862.

DESCR. (*var. β.*) *Stem* four to five feet high, stout, erect, branched, especially upwards, striated and ribbed, somewhat woolly, leafy. *Leaves* very long, especially the lower

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* From *κυων, a dog,* from a fancied resemblance in the spines of the leaf to the teeth of a dog.

ones, which extend to three feet and more; *these* are deeply pinnatifid, or even pinnated, with the pinnæ decurrent, the segments pinnatifid, the divisions oblongo-lanceolate, more or less acute, the sinus, and they alone, frequently furnished with a soft, blunt spinule. The midrib is remarkably large and thick, grooved on the upper side, the underside semi-cylindrical, marked with prominent lines, the inner part thick and fleshy, and abounding in bundles of longitudinal vessels, veins numerous, anastomosing; the upper leaves become gradually smaller, narrower, and less pinnatifid, till, just beneath the flower, they pass into linear bracteas: the upper is dark green, obscurely tomentose, the underside white with tomentum. *Heads* of *Flowers* large, numerous. *Involucre* broadly, almost rotundato-ovate, imbricated loosely with ovato-oblong, subattenuated, rigid *scales,* purple at the extremity, the base green and fleshy, more or less spotted with purple, and waved: the upper and inner scales are smaller, scariose, brown: the outermost and lower ones patent, or even reflexed. *Receptacle* thick, fleshy, and nearly plane, abounding in chaffy, filiform, white hairs, among which are inserted the numerous florets which are placed erect, all tubular, the tube long, white, swelling upwards, and there purple, just before it breaks into the five linear, blue segments. *Anthers* dark purple, through which passes, much exceeding them in length, the linear, blue *style,* or perhaps it should be considered the *stigma,* for though it is bifid merely at the extremity, a line is visible, passing through it. *Germen* small. *Pappus* rather shorter than the tube of the flower, feathery.

It has now, I believe, been generally acknowledged, that the *Artichoke* (CYNARA *Scolymus.* L.) is but a variety of the *Cardoon,* depending on cultivation; and differing from this latter in its broader, spineless foliage, humbler growth, shorter and less branched stems, and larger and more fleshy heads: thus the *heads* of the Artichokes, and the *stems* of the Cardoons, or the midribs of their leaves, are employed for culinary purposes.

The plant here figured has, like the Artichoke, spineless leaves, but it has the other characters of the Cardoon family, and is one with the beauty of which I was much struck in the Garden of the Horticultural Society of Edinburgh, in the autumn of last year, 1827; and indeed I can scarcely conceive a more highly ornamental plant for any shrubbery or extensive garden. It was received at Edinburgh from the Horticultural Society of London, and is probably the fourth variety of Cardoon described by Mr. Andrew Mathews, in the 7th vol. p. 12, of the Transactions of that most useful Institution. The stems, however, had not that deep tinge of red which could entitle it to the name of "*Red Cardoon.*"

The different kinds of Cardoon are eaten, after being blanched, as a salad, or boiled or stewed; but by no means so generally in Britain as upon the Continent, though, according to Mr. Neill, it was cultivated at Holyrood Palace so early as 1683. Its native countries are the South of Europe and the North of Africa; but the seeds having been conveyed to South America, it has escaped into the extensive plain that lies between Buenos Ayres and the Andés, and has given such an extraordinary feature to that country, as deserves to be recorded under the history of the species. "The great plain or Pampas of the Cordillera," says Capt. Head, in his '*Rough Notes taken during some rapid Journeys across the Pampas and among the Andés,*' "is about nine hundred miles in breadth; and the part which I have visited, though under the same latitude, is divided into regions of different climate and produce. On leaving Buenos Ayres, the first of these regions is covered for one hundred and eighty miles with clover and *thistles**; the second, which extends for four hundred and fifty miles, produces long grass; and the third region, which reaches the base of the Cordillera, is a grove of low trees and shrubs. The second and third of these regions have nearly the same appearance throughout the year, for the trees and shrubs are evergreens, and the immense plain of grass only changes its colour from green to brown; but the first region varies with the four seasons of the year in a most extraordinary manner. In winter, the leaves of the thistles are large and luxuriant, and the whole surface of the country has the rough appearance of a turnip field. The clover at this season is extremely rich and strong; and the sight of the wild cattle, grazing in full liberty on such pasture, is beautiful. In spring, the clover has vanished, the foliage of the thistle has extended across the ground, and the country still looks as if covered with a rough crop of turnips. In less than a month the change is most extraordinary; the whole region becomes a luxuriant wood of enormous thistles, which have suddenly shot up to a height of ten or eleven feet, and are all in full bloom. The road or path is hemmed in on both sides; the view is completely obstructed; not an animal is to be seen; and the stems of the thistles are so close to each other, and so strong, that independent of the prickles with which they are armed, they form an impenetrable barrier. The sudden growth of these plants is quite astonishing; and though it would be an unusual misfortune in military history, yet it is really possible that, an invading army, unacquainted with this country, might be imprisoned by these thistles, before it had time to escape from them. The summer is not over before the scene undergoes another rapid change; the thistles suddenly lose their sap and verdure, their heads droop, the leaves shrink and fade, the stems become black and dead, and they remain rattling with the breeze one against another, until the violence of the pampero or hurricane levels them with the ground, where they rapidly decompose and disappear,—the clover rushes up, and the scene is again verdant."

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* I feel myself justified, although Captain Head does not mention the scientific name of this "*Thistle,*" in calling it the *Cardoon,* from the circumstance of my most intelligent friend and valued correspondent Dr. Gillies of Mendoza, having sent me the *Cardoon* from similar situations in South America, accompanied by the following remarks :—"This *Thistle* is very common in all the province of Buenos Ayres; it grows to a height of six to eight feet and upwards. The florets of several flowers, if tied up in a rag, and put into a quantity of warm milk for a few minutes, or stirred about among it, coagulate the milk, in the same manner as rennet; and the plant is commonly used for this purpose in Buenos Ayres as well as at Mendoza, where it is not unfrequent in cultivated fields. I presume it is not indigenous to Mendoza, but introduced by some accident. It is also sometimes used as a vegetable for the table. The tender footstalks of the leaves, and also the young stems, when they are boiled, and the outer skin is taken off, have the flavour of Artichoke.

Fig. 1. Portion of a Leaf, *nat. size.* 2. Floret. 3. Stamens. 4. Hair from among the Florets of the Receptacle.—*Magnified.*

2863.

W. J. H. del.

Pub. by S. Curtis, Walworth, Nov.r 1 1828.

Swan sc.

SIEVERSIA PECKII. MR. PECK'S SIEVERSIA.

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Class and Order.

ICOSANDRIA POLYGYNIA.

(Nat. Ord. — ROSACEÆ.)

Generic Character.

Cal. 10-fidus, laciniis alternis minoribus. *Petala* 5. Caryopses stylis rectis coronatæ. *Spreng.*

Specific Character and Synonyms.

SIEVERSIA *Peckii;* foliis radicalibus lyrato-pinnatis, pinnis lateralibus paucis minutissimis, terminali maxima reniformi-cordata lobato-serrata, caule pauce folios apice paniculato.

SIEVERSIA Peckii*. *Brown in Parry's Second Voyage. App. p. cclxxvi. (in adnot.)*

GEUM Peckii. *Pursh Fl. of N. Am. v. 1. p. 352. Nutt. Gen. v. 1. p. 309. Torrey Fl. of Midl. St. v. 1. p. 494. Bigelow Fl. Bost. ed. 2. p. 208. De Cand. Prodr. v. 2. p. 554. Spr. Syst. Veget. v. 2. p. 543.*

DESCR. *Root* perennial, woody. *Stem* a foot or more high, rounded, pilose, branched upwards, so as to be paniculated. *Leaves* mostly radical, upon long, hairy petioles, and in reality, pinnated: but having the lateral pinnæ so few and so small that, in some specimens, they may be easily overlooked; these are oblong or cuneate, incised at

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* *Peckii:* named in honour of Mr. PECK, Professor of Natural History, if I mistake not, in the University of New Cambridge, State of New England. He was a zealous Entomologist, and communicated many curious Insects to Mr. KIRBY.

the extremity: the terminal pinna is remarkably large, reniformi-cordate, slightly hairy, especially on the nerves, the margin cut into many lobes, and serrated. The leaves of the stem scarcely any, except at the branching of the panicle, and there they may be considered as bracteas, cordate, sessile, inciso-laciniate. *Flowers* terminal, solitary upon each ramification or peduncle. *Calyx* hairy, the tubular part larger and more distinct than in any other of this family, almost urceolate, as in Rosa. Outer segments of the calyx very small. *Petals* bright yellow, showy, roundish, waved. *Stamen* yellow. *Receptacle* of the pistils elongated. *Germen* oblong, hairy: *Styles* scarcely longer than the calyx, hairy below, straight: *Stigma* obtuse.

I have native specimens of this rare species of Sieversia from Dr. Nuttall and Dr. Boott, gathered by those gentlemen in the White Mountains of New Hampshire, and find them exactly to correspond with the subject here figured, and which was brought from the same country, and probably from the same mountains, to Mr. Cunningham, near Edinburgh, in whose collection it flowered in June of this year, 1828.

It comes very near the Sieversia *rotundifolia* of Chamisso and Schlechtendal in the second vol. of the Linnæa, p. 4, a native of Kamtschatka, and also of the N. W. coast of America, whence I have specimens from Mr. Menzies, and which is identical with the Geum *radiatum* of Michaux and Pursh; and is distinguished from S. *Peckii*, by its more deeply cordate, radical leaves, whose lobes almost meet at the base, and the much larger cauline ones.

Fig. 1. Receptacle with two of its Pistils.—*Magnified.*

2864

W.J.H. del.   Pub. by S. Curtis Walworth Novr 1.1828   Swan sc.

(2864)

SALVIA PSEUDO-COCCINEA. HAIRY-STALKED SCARLET SAGE.

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — LABIATÆ.)

Generic Character.

Cal. bilabiatus, 3—5 dentatus. *Cor.* bilabiata, lab. sup. galeato, inf. trilobo. *Filamenta* basi appendiculata (antheras spurias sæpe gestantia.) *Caryopses* 4. *Spr.*

Specific Character and Synonyms.

SALVIA* *pseudo-coccinea;* caule fruticoso, ramis pilosis, foliis ovato-oblongis (cordatisve) acutis crenatis pubescentibus, verticillis sexfloris subdistantibus, bracteis ovato-acuminatis calyce brevioribus.

SALVIA pseudo-coccinea. *Jacq. Coll. v.* 2. *p.* 302. *Ejusd. Icones, v.* 2. *p.* 2. *t.* 209. *Willd. Sp. Pl. v.* 1. *p.* 141. *Roem. et Schultes Syst. Veg. v.* 1. *p.* 231. *et Mant. in vol.* 1. *p.* 185. *Humb. Nov. Gen. et Sp. v.* 2. *p.* 239. *Spreng. Syst. Veg. v.* 1. *p.* 58.

DESCR. A small, slender, shrubby plant, about two feet high, with upright, hairy, tetragonal branches, and opposite, downy *leaves,* which are petiolate, varying in shape, ovate or oblong, in our plants more inclining to cordate, deeply veined, the margin crenulated, the apex more or less acute. *Whorls* remote, of six flowers, having two, ovate, subulato-acuminate, pale green bracteæ, shorter than the calyx, hairy at the margin. *Pedicels* short. *Calyx* subcylindrical, pubescent, a little hairy at the mouth, striated, green, deep purple on the back, two-lipped, upper lip the longest, the sides inflexed, acute, entire, the lower one bifid. *Corolla* thrice as long as the calyx, bright scarlet, downy: *tube* cylindrical: upper lip small, galeate, the sides compressed; lower, large, three-lobed: lobes rounded, the intermediate one much the largest, bifid, concave. *Stamens* two: pedicel geniculated; *filament* abortive at the lower extremity; the other bearing a one-celled, oblong anther, and protruded: *Style* also protruded: *Stigma* bifid.

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* SALVIA: from *salvo,* to keep safe, on account of the imagined medicinal properties of some of the species:—*pseudo-coccinea,* from Ψευδὴς, that which puts on the appearance of, or is like SALVIA *coccinea.*

A very beautiful and most desirable stove plant, having very richly coloured blossoms, which continue long in perfection. It is a native of South America, and was first described by JACQUIN. HUMBOLDT found it in New Andalusia. Our plants in the Glasgow Botanic Garden were sent to us a few years ago by the late BARON DE SCHACK, from the Island of Trinidad.

Fig. 1, Stamen. 2. Calyx, seen from the underside.—*Magnified.*

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W. J. H. del.   Pub. by S. Curtis, Walworth Nov 1. 1828.   Swan sc.

BLUMENBACHIA INSIGNIS. PALMATED BLUMENBACHIA.

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Class and Order.

POLYADELPHIA POLYANDRIA.

(Nat. Ord.—LOASEÆ.)

Generic Character.

Calycis tubus spiraliter striatus ovario adhærens; *limbus* 5-partitus, marcescens. *Petala* 5, compresso-cucullata. Squamæ 5 petalis alternæ, singulæ filamenta 2 sterilia includentes. *Stam.* plurima in fasciculos 5 petalis oppositos disposita. *Stylus* 1 obtusus. *Fructus* fungosus in partes 10 basi spirales dehiscens, 5 alternæ tenuiores (dissepimenta), 5 crassiores (valvæ). Semina plura parieti dissepimentorum versus axim adfixa, epidermide indusiata, rugosa. Herba *ramosa, scandens, piloso-pruriens, habitu et inflorescentia Loaseæ, sed fructus structura distincta!* Pedunculi axillares 1-flori bracteati. *Flores* albi. *De Cand.*

Specific Name and Synonyms.

BLUMENBACHIA* *insignis.*
BLUMENBACHIA insignis. *Schrad. in Diss. de Blumenbachia. p. 9. t. 1. Sweet. Brit. Fl. Gard. t. 171. De Cand. Prodr. v. 3. p. 340.*
LOASA palmata. *Spreng. Syst. Veget. v. 2. p. 601. De Cand. Prodr. v. 3. p. 342.*

DESCR. *Stem* climbing, much branched, herbaceous, four-sided, rising from a perennial root, and clothed, as is almost every part of the plant, with small, glandular hairs

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* So named, by Dr. SCHRADER, after the celebrated German physician, Dr. BLUMENBACH.

and larger stings, as in the genus Loasa. *Leaves* opposite, remote, palmato-partite, or sometimes pinnatifid, the segments oblong, deeply inciso-serrate, nerved. *Petioles* about an inch long. From the axils of the upper leaves, principally, the flower-stalk rises, three to four inches long, spreading or erect when in flower, deflexed in fruit, curved at the very extremity, and bearing there a small *bractea*. *Calyx* superior, of five, deep, linear segments, which are incurved, and much shorter than the corolla. *Petals* five, spreading, pure white, hairy externally, oblong, unguiculate, remarkably cucullate, compressed and carinate, with an apiculus at the extremity, and a large, more or less serrated, tooth at the margin, below the middle. *Stamens* in five bundles, alternating with the petals. *Filaments* white: *Anthers* roundish, oblong, yellow. *Scales* alternating with the bundles of stamens, thick, fleshy, very concave, bright yellow, with a brilliant red spot on the back, and a red thickened margin at the top; the lateral margins beautifully fringed. From the back of this scale, near the base, proceed three, long, yellow setæ; and within each scale are situated two linear falcate, aristate bodies, longer than the scale itself, and considered to be sterile filaments. *Germen* roundish-oval, spirally striated. *Style* straight, subulate. *Fruit* fleshy, separating into ten pieces, alternate five the largest, and *dissepiments;* the rest *valves,* to which are attached near the inner axis, and partly imbedded in the substance, (on each side three,) ovate, black, wrinkled *seeds*. *Albumen* white, fleshy. *Embryo* central; *radicle* superior.

This very curious plant, in habit and in the structure of its flowers, so closely allied to Loasa, yet in the fruit differing so remarkably from it, appears to have been introduced into our stoves by John Hunneman, Esq. probably from Germany; the German Naturalists having received it both from Monte Video on the eastern, and from Chili on the western side of South America. It is now not uncommon in our collections, requiring the same treatment as the rest of the Loaseæ. We possess specimens from the Liverpool, Glasgow, and Edinburgh Gardens. De Candolle thinks it probable that the Loasa *contorta* of Jussieu should be referred to this genus: and I possess from Buenos Ayres, a species gathered by Dr. Gillies, which I can scarcely distinguish from Bl. *insignis*, except by its much more divided (constantly bipinnatifid) leaves.

Fig. 1. Petal. 2. Bundle of Stamens. 3. Scale with abortive Anthers. 4. Abortive Anthers removed from the Scale. 5. Section of an unripe Fruit. 6. Ripe Fruit. 7. One of the Valves and its accompanying Dissepiment. 8. Seed. 9. Albumen. 10. Section of the Albumen to shew the Embryo.—*More or less magnified.*

2866.

W. J. H. del.

Pub. by S. Curtis, Walworth, Novr. 1.1828.

Swan Sc.

OXALIS CARNOSA. FLESHY WOOD-SORREL.

* * *

Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord. — OXALIDEÆ.)

Generic Character.

Cal. 5-sepalus. *Pet.* 5. stamina alterna longiora. *Caps.* 5-gona, 5-locularis, 5-valvis, seminibus arillatis ad angulos loculorum fixis. *Spr.*

Specific Character and Synonym.

OXALIS* *carnosa ;* herbacea glabra, caule perbrevi dentato, foliolis ternis longe petiolatis obcordatis carnosis subtus punctato-chrystallinis, scapo triflora, calycis foliolis duobus exterioribus majoribus planis.

OXALIS carnosa. "*Molina.*" *Bot. Reg. t.* 1063.

DESCR. *Root,* a large, subfusiform, *tuber,* from the crown of which arises a very short, herbaceous, toothed stalk. Upon each tooth is jointed the long, terete *petiole,* glabrous, as is all the rest of the plant. *Leaflets* ternate, obcordate, jointed upon the petiole, fleshy, dark green above, beneath clothed with beautifully minute, perfectly transparent, chrystalline dots or papillæ, which extend to the very margin, and reflect a yellow or pale golden light. *Scapes* generally longer than the leaves, bearing three pedicellated flowers at the extremity, with a pair of oval, convex *bracteas* at the base. *Calyx* having the two outer leaflets the largest, quite flat and compressed, fleshy, oblongo-cordate,

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* From ὀξὺς, *sour,* many of the species being remarkable for their acid properties.

date, and almost entirely concealing the three inner and more membranaceous ones; all of them more or less conjoined at the base. *Corolla* of five yellow, obcordate *petals,* united at the base by a membrane between the claws. *Stamens* united at the base: filaments slightly pubescent. *Germen* oblongo-cylindrical: *Styles* five, rather short, filiform: *Stigmas* penicelliform, green.

This very singular species of *Wood-sorrel* was received at the Glasgow Botanic Garden from Valparaiso, by favour of our often-mentioned friend Mr. CRUICKSHANKS, and is unquestionably the same with Mr. LINDLEY'S O. *carnosa* in the Bot. Register. That gentleman states it to be the plant of the same name in MOLINA'S Chili. DE CANDOLLE seems to have taken no notice of the species; and SPRENGEL has united it with O. *magellanica,* which, as DE CANDOLLE describes them, has the petioles clothed with hairs of a brown colour.

It is a plant well deserving of cultivation, flowering during a great part of the summer, and succeeding well in a cool greenhouse. It increases readily by the roots, and would no doubt flourish during the warm season, if planted in light earth in a sheltered situation in the open air: where perhaps the leaves would become still larger, and the glittering crystalline appearance of their underside more conspicuous, as is the case with the MESEMBRYANTHEMUM *chrystallinum,* whose frosted appearance is of an exactly similar nature.

Fig. 1. Single Flower. 2. Portion of the Stamens. 3. Pistil.—*Magnified.*

2867.

W. J. H. delt.

Pub by S. Curtis. Walworth Nov.r 1.1828.

(2867)

DESMODIUM NUTANS. DROOPING-FLOWERED DESMODIUM.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord. — LEGUMINOSÆ.)

Generic Character.

Cal. basi bibracteolatus ad medium obscure bilabiatus, labio superiore bifido, inferiore 3-partito. *Corolla* papilionacea vexillo subrotundo, carina obtusa non truncata, alis carina longioribus. *Stamina* diadelpha (9 et 1) filamentis subpersistentibus. *Legumen* constans articulis plurimis ad maturitatem seudentibus compressis monospermis membranaceis coriaceisve, non aut vix dehiscentibus.

Specific Character and Synonym.

DESMODIUM* *nutans,* fruticosus ramosus, racemis compositis terminalibus axillaribusque ramisque pendulis, floribus geminatis bracteis acutis, foliis ternatis pendulis, foliolis rhomboideis integerrimis utrinque tomentosis, stipulis subulatis.

HEDYSARUM nutans. *Wallich in Herb. Hook.—Graham in Edin. Phil. Journ.*

DESCR. A low slender *shrub,* much branched; *branches* long, straggling, drooping: *bark* brown, cracked, scaling off. *Leaves* scattered, ternate, leaflets rotundato-rhomboidal, undulate, mucronulate, reticulated, soft with a dense, short down on both sides, the terminal one twice the size of the others, (three inches in both ways,) and on a petiole half its own length, the lateral ones just above the middle of the common petiole, on short, partial footstalks; common petiole from its base to the terminal leaflet full three inches long, channelled above. *Stipules* lateral, subulate. *Racemes* a foot in length, terminal or axillary, branched. *Flowers* in pairs, on pedicels nearly as long as themselves, the panicle branching from between them, but many of the branches shewing no more than their terminal flower-bud. *Calyx* four-cleft, opposite; *Segments* equal, ovate, subacute, concave, spreading, and on the outside, as well as the peduncle and pedicels, hairy. *Corolla* of an uniform delicate lilac colour, gaping; *vexillum* erect, flattish, subrhomboid, notched, faintly striated, and marked in the middle with a deeper purple spot, the lower part of which is green; unguis inversely conical; wings depressed, about as long as the vexillum, and nearly forming right angles with it, lower edges in contact in the anterior half, open behind, abruptly cut down to narrow, flattened, linear claws, which are continuous with their lower edges; keel rather paler than the rest of the flower, and somewhat more distinctly striated, shorter than the wings, notched at its apex, and split from the base to nearly half its length, having two linear claws, above which it is gibbous on both sides, and adheres there to corresponding depressions of the wings; it shuts the aperture between the claws of these, so as with them to give the form of a boat to the lower half of the flower. *Stamens* monadelphous, straight, being scarcely curved at their apices; *anthers* yellow. *Germen* long, linear, slightly hairy, indistinctly lobed; *style* bent at right angles to the germen, conical, smooth; *stigma* terminal, small, cleft, in contact with the vexillum.

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* From δεσμος, *a chain,* from the bended or articulated appearance of the seed vessels.

This plant was brought to the Royal Botanic Garden, Edinburgh, in 1823, under the name here adopted, from the Botanic Garden of Calcutta, by Dr. MACWHIRTER; and it has flowered in the stove every summer since. The early fall of the blossoms, and the small number of them which expand at a time, are prejudicial to the beauty of this species; but its raceme is large, the hue of the flowers beautiful, and the drooping branches are remarkably graceful. No fructification has been perfected.

Fig. 1. Flower. 2. Vexillum. 3. Pistil. 4. Calyx, Stamens, and Pistil. —*Magnified.*

W. J. H. del.t Pub. by S. Curtis, Walworth Nov.r 1.1828. Swan Sc.

Passiflora capsularis. Angular-fruited Passion-flower.

* *

Class and Order.

Monadelphia Pentandria.

(Nat. Ord. — Passifloreæ.)

Generic Character.

Cal. 10-partitus, laciniis interioribus corollinis. *Corona* radiata perigyna. *Nectarium* in fundo calycis. *Tubus* staminifer stylum ringens. *Stigmata 3,* clavata. *Pepo* 1-locularis, placentatio parietalis.

Specific Character and Synonyms.

Passiflora* *capsularis,* foliis sulvelutinis basi cordatis bilobis in sinu aristatis subtus petiolisque eglandulosis, pedicellis solitariis, ovario elliptico-oblongo fructibusque acute hexagonis glabris. *D C.*

Passiflora capsularis. *Linn. Sp. Pl. p.* 1357. *Willd. Sp. Pl. v. 3. p.* 614. *Spreng. Syst. Veget. v. 3. p.* 88. *De Cand. Prodr. v. 3. p. 325.*

Passiflora foliis bilobis. *Plum. Pl. Am. ed. Burm. t.* 138. *f.* 2.

(β.) foliis vix pubescentibus profunde bilobis, lobis oblongo-lanceolatis. *Ic. nostr. t.* 2868.

Descr. *Stem* climbing, glabrous, triangular, purplish green. *Leaves* alternate, remote, cordate at the base, dividing from below the middle, and spreading into two, oblongo-lanceolate, acute, entire lobes, glabrous and dark green above, paler and slightly downy beneath, quite free from glands, having three principal nerves; one in the centre of the leaf, which terminates in a reflexed mucro within the sinus; the others running up the middle of each lobe. *Petiole* scarcely an inch long, destitute of glands, with two subulate stipules at the base. *Cirrhi* unbranched. *Peduncles* single-flowered, axillary, solitary. *Calyx* of ten, deep, oblong lobes, greenish white, the five inner smaller and more delicate. *Filamentose crown* pale yellow-green, scarcely so long as the calyx, surrounding a double white nectarium or cup, one within the other. *Column* green. *Anther* yellow ; *germen* oblong ; *stigmas* yellow. *Capsule* (immature) two inches long, oblong, acute, sharply six-angled within, containing many *seeds* arranged upon three longitudinal, parietal receptacles.

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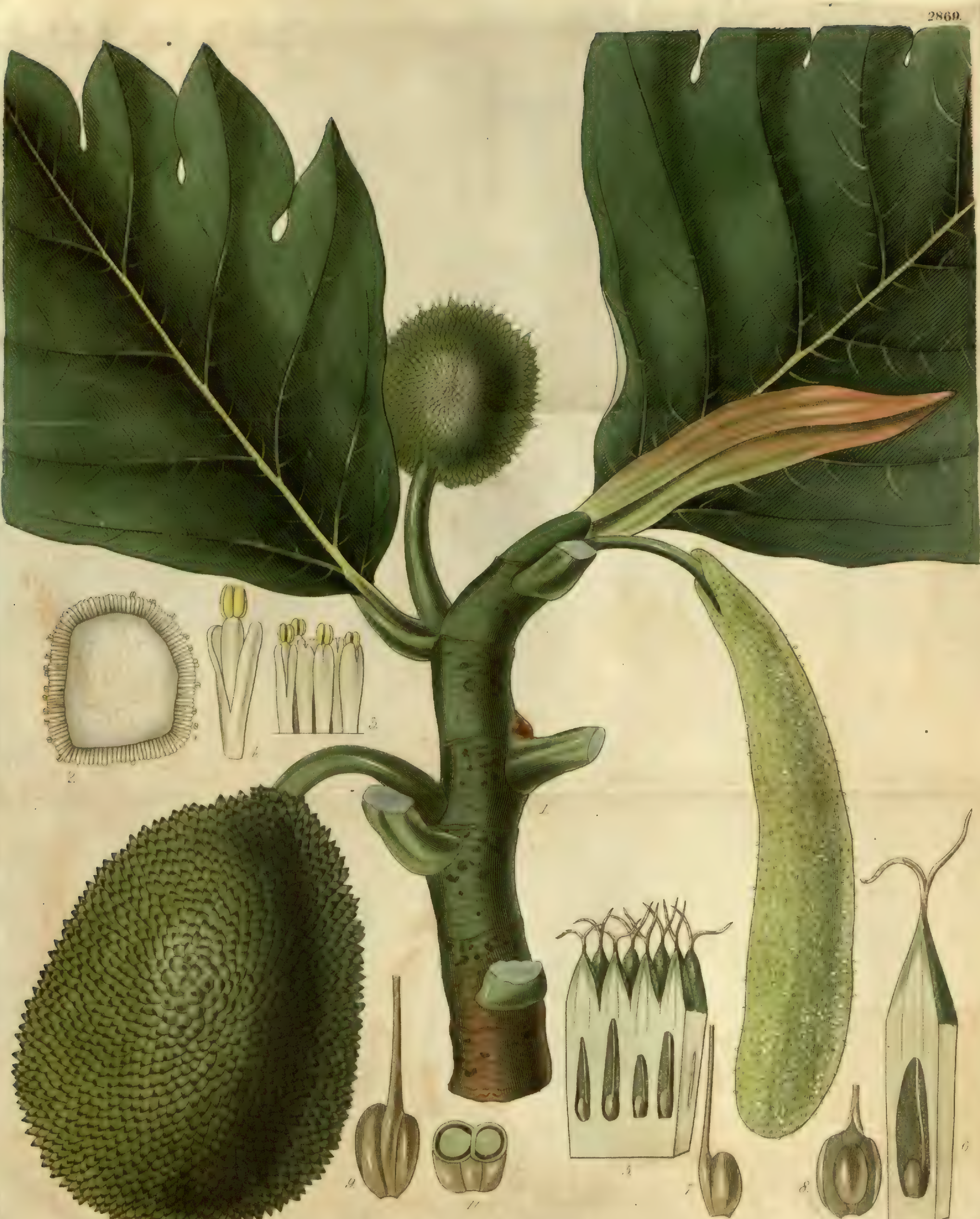
* *Flos Passionis:* from a fancied resemblance in the different parts of the flower to the instruments of our Saviour's Passion.

Received from the West Indies by Dr. Graham, who communicated a flowering branch, together with the unripe fruit in the month of June, 1828, from the Edinburgh Botanic Garden. The plant has the flowers much smaller than Plumier's figure represents them, and the leaves much more deeply lobed, indeed agreeing with De Candolle's var. β. in every thing except the spotted leaves.

Fig. 1. Section of the Capsule.

2869.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Pub. by S. Curtis, Walworth, Dec.r 1. 1828

(2869 2870 2871)

ARTOCARPUS INCISA. BREAD-FRUIT TREE (α and β).

Class and Order.

MONŒCIA MONANDRIA.

(Nat. Ord. URTICEÆ.)

Generic Character.

Flores amentacei. MASC. *Perianthium* simplex, mono-di- triphyllum. *Filamentum* longitudine perianthii. FÆM. *Perianthium* monophyllum, ore contracto. *Bacca* composita.

Specific Character and Synonyms.

ARTOCARPUS *incisa**; foliis cuneato-ovatis pinnatifido-lobatis glabris, subtus scabris.
(α.) fructu seminifero vulgò *Bread Nut.*
ARTOCARPUS incisa. *Linn. Fil. Suppl. p.* 411. *Willd. Sp. Pl. v.* 4. *p.* 188. *Ait. Hort. Kew. ed.* 2. *v.* 5. *p.* 231. *Spreng. Syst. Veget. v.* 3. *p.* 804.
RADEMACHIA incisa. " *Thunb. Act. Holm. t.* 36. *p.* 250."
RIMA, ou Fruit au Pain. *Sonnerat Voy. à la Nouv. Guinée, p.* 99. *t.* 57—60.
Soccus granosus. *Rumph. Amb. v.* 1. *p.* 112. *t.* 33.
(β.) fructu apyreno, vulgò *Bread Fruit.*
ARTOCARPUS communis. *Forster Gen. Pl. p.* 102. *t.* 51.
Soccus lanosus. *Rumph. Amb. v.* 1. *p.* 110. *t.* 32.

DESCR. A *tree,* from thirty to forty feet high, with a diameter of *trunk* from a foot to a foot and a half, bearing a large head of many, patent, fragile branches, and abound-

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* From Αρτος, *bread,* and καρπος *fruit.*

ing in every part with a viscid, milky juice. *Leaves* from one to two and even three feet long, and often a foot and a half broad, coriaceous, alternate, ovate, but cuneate and entire at the base, the upper part cut in a pinnatifid manner into from three to nine acute, more or less deep *lobes;* on the suckers the foliage is often entire, and on the shoots from the larger branches, it has only two or three lobes*: the upper surface dark green, with numerous yellowish nerves, almost entirely glabrous, below scabrous, paler in colour, and marked with very prominent nerves. *Petioles* short and thick. *Stipules* large, soon withering and caducous, downy. *Peduncles* axillary, solitary, from within the upper leaves of the branches: the superior one bearing the *male,* the lower, the *female* flowers; when young, included within the same stipule with its accompanying leaf. The *male flowers* are very densely crowded around a central, spongy receptacle, so as to form a cylindrical or somewhat club-shaped catkin, ten to sixteen inches long, and of a yellowish colour. *Perianth* monophyllous, cylindrical, opening half-way down into two valves. *Stamen* one. *Filament* broad, as long as the perianth, white. *Anthers* roundish, two-lobed, two-celled. *Female flowers* collected into a globular, echinated head, having a central, spongy receptacle. *Perianths* single, fleshy, united indeed, and incorporated with each other, except at the very extremity, where they form as many sharp, pyramidal, downy points. The lower part only of each perianth is hollow, and downy within, where the pistil is situated. *Germen* oval, one-sometimes two-celled. *Style* lateral, incorporated with the solid substance of the upper part of the perianth, and again appearing beyond the point, where it divides into two subulate, white *stigmas.* *Fruit* becoming a very large, aggregate, oval or globose, fleshy *Berry,* as large as a good-sized Melon; in α, the seed-bearing kind, remarkably muricated. A vast number of these perianths prove abortive, and undergo no alteration, but in becoming more developed and fleshy; those in which the fruit ripens, separate from the rest in the lower part and from the fleshy top, and form a loose cup-shaped, jagged, membranous receptacle to the enclosed fruit. *Pericarp* oval, gibbous on one side, membranous, loose, reticulated, still retaining the withered *style.* *Seed*

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* That kind which produces the seedless fruit, especially the *Timor Bread Fruit,* has the lobes very deep, reaching almost to the midrib.

Rev. L. G. delᵗ

Pub. by S. Curtis, Walworth, Dec.ʳ 1. 1828.

Swan Sc.

Seed erect, irregular, oval, brown, veined. *Albumen* none. *Embryo* large, yellowish. *Radicle* superior. *Cotyledons* unequal.

The *var.* β has the *flowers* abortive. The *styles* have but one *stigma,* and the *fruit,* instead of being remarkably muricated, is marked with reticulations, whose areolæ are flat, or but slightly prominent, and it contains no seed.

A tree, producing a fruit, which, without any preparation, has the appearance of, and is used as a substitute for, *bread,* cannot fail to be an object of great curiosity; and from the time of DAMPIER, who appears to have first * made known the existence of such a plant to Europeans, it has been spoken of as one of the wonders of the vegetable creation; but much of its present celebrity is due to that deeply affecting history of the sufferings of Captain, afterwards Rear Admiral BLIGH, consequent upon the mutiny in the Bounty, the ship that was employed to convey so valuable a fruit to our own colonies in the West Indies.

DAMPIER saw the tree abundantly in the Ladrone Islands, and he tells us that the fruit is as big as a penny loaf, when wheat is at five shillings the bushel; that the natives of Guam use it as bread, " gathering it when fully grown, while it is green and hard, and then baking it in an oven, which scorches the rind and makes it black; but they scrape off the outside black crust, and there remains a tender, thin crust, and the inside is soft, tender, and white, resembling the crumb of a loaf. There is neither seed nor stone in the inside, but all is of a pure substance, like bread. It must be eaten new; for if it is kept above twenty-four hours, it becomes hard and choaky, but it is very pleasant before it is too stale. The fruit lasts in season eight months in the year, during which, the natives eat no other sort of fruit." This account was published in 1697. Above forty years afterwards, Commodore ANSON, in visiting the same country, speaks of it as being in size equal to a *two-penny* English loaf; from which we may infer, that the price of bread had already risen considerably during that time. He compares the flavour of the *Bread Fruit,* when boiled or roasted, to that of the common potatoe; and further tells us that, " the Spaniards slice it, and expose it to the sun, and when brought thereby to a crispature, they reserve it as a biscuit, and say it will bear long keeping when so prepared. Eaten ripe, it is delicious to the palate; and when mixed with lime or orange juice, it makes a grateful tart not unlike to apple sauce." It was eagerly sought by the crew of Commodore **Anson**, and preferred by them to bread." **Rumphius** figures the plant, and gives it as a native of Sumatra, Java, Amboyna, and of the Molucca Isles generally, where the seeds of the seminiferous kind are eaten as well as the pulp, and where the ample leaves serve as table-cloths. **Sonnerat** introduced the tree from the Isle of Luçon to the Isle of France, and M. **Poivre** to that of Bourbon. But it is in the South Sea Islands, and especially in Otaheite, that the best *Bread Fruit* is found, and where it is consequently the most highly prized. Capt. **Cook** says of it, that the flavour is insipid, with a slight sweetness, somewhat resembling that of the crumb of wheaten bread mixed with Jerusalem Artichoke. From Otaheite then, it was arranged by our government, that the tree should be imported to the West Indies, and His Majesty, George the Third, ever anxious for the welfare of his people, appointed the Bounty to be freighted with this and other valuable productions of the South Seas, under the command of Capt. **William Bligh**. Seven hundred and seventy-four healthy plants of the *Bread Fruit* were procured, and conveniently placed on board the vessel, so as to be protected from the spray of the sea, and there was every prospect of a happy termination to the voyage; when, on the second morning after leaving the island, a mutiny broke out, headed by **Christian**, the master's mate, who was of a most respectable family in the north of England, and had now gone three voyages with his present commander, by whom he had been treated with more than usual kindness. The consequences of this mutiny, the sufferings of **Bligh** and of his faithful friends, together with the fate of the mutineers, and the good conduct and reformation of **Christian**, are known to every one; and I need only here say, that they completely frustrated the benevolent design of our government. Another ship, however, the Providence, was engaged for a similar purpose, and the charge was given to the same experienced navigator, who accomplished, to the fullest extent, the object of his mission. Eleven hundred and fifty *Bread Fruit Trees* were received on board. Many, as may be supposed, notwithstanding the care of the officers, and the skill of the gardener, perished during the voyage. Five hundred and fifty were landed at

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* The JACA of CLUSIUS, Exot. t. 281, though often quoted as the *A. incisa,* seems certainly to belong to the *A. integrifolia,* and might, I think, with safety have been referred to under that species.

St.

2871.

St. Vincent's, in January, 1793, the rest went to Jamaica, with the exception of five plants, destined for the Royal Gardens at Kew, and which arrived in England the same year.

Of the success of the plants which were sent to Jamaica, I have no means of knowing; but in St. Vincent's, under the judicious management of Dr. ANDERSON, then director of the Botanic Garden, the *Bread Fruit Tree* began to bear in the following year, 1794; and it has thence been communicated to the other islands, and to the colonies of equinoctial America. Several memoirs on the *Bread Fruit* are given by Dr. ANDERSON, in the different volumes of the Transactions of the Society of Arts, and by the Rev. LANSDOWNE GUILDING, in his "Account of the Botanic Garden of the island of St. Vincent." It is to this able naturalist that I am indebted for a splendid set of drawings * executed in that island, (from which most of the accompanying figures have been made) as well as for specimens preserved in spirits; together with valuable information respecting the uses and history on the *Bread Fruit*. "How curious and interesting," says this gentleman, "to the Botanist, is the migration of plants, which man in his travels exports from the most distant lands! The Bread Fruit is now known from Spanish Guiana to the kingdom of New Granada: thus, as HUMBOLDT states the curious fact, the western coast of America, washed by the Pacific Ocean, receives from a British settlement in the West Indies, a production of the Friendly Islands. It is not probable that its cultivation will ever supersede, valuable as it is, that of the *Plantain*, (MUSA *paradisaica*) and its several varieties; which on the same space of ground, furnishes perhaps more nutritive matter, at least in a shorter period of time.

"The improvident negro, forgetting that for three parts of the year the *Bread Fruit Tree* is loaded with ripe, or lately developed fruit, considers only the greater rapidity with which he may reap the produce of his *Plantain*, which in a few months after the setting of the sucker, repays the owner's pains; and the master, equally thoughtless, seldom plants it, even in waste and otherwise useless spots."

The *Fruit* rarely exceeds eight inches in diameter. When ripe, the skin assumes a yellow crust, and the viscous juice (so common in others of the same family) exuding in tears, runs down its sides, and is concreted by the sun. It is eaten plainly boiled as potatoes, or as a substitute for bread, baked after the central pith has been removed. It is often also made into boiled or baked puddings.

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* Among them is a variety or monstrosity, with the female fruit occupying the lower part of a male catkin.

There are many varieties of the *Bread Fruit,* as may be supposed with a plant so extensively cultivated. Mr. Guilding enumerates the following as the principal.

1. Round and rough (muricated) fruit.
2. Oval and rough, one of the most valuable.
3. Oval and smooth variety; the second-best.
4. Round and smooth variety.
5. Timor variety: small, and very inferior.

I may sum up the properties of this tree by remarking, that in the native countries of this widely-diffused plant, clothes are made of the fibres of the *liber* or inner *bark;* the *wood* serves for building houses and making boats: the *male catkins* are employed as tinder; the *leaves* for wrapping provisions in; and the viscid, milky *juice* affords bird lime.

The Artocarpus *incisa,* exists in a living state in the Glasgow, and, probably, other Botanic Gardens of this country: but it is both imported and kept alive in our stoves with great difficulty: so that we dare not expect to see it ever flourishing in Europe.

Tab. 2869. Artocarpus *incisa, α. (Bread Nut.)* Fig. 1. Branch reduced to one-third of the natural size, with Male and Female Flowers. 2. Section of a Male Flower (nat. size). 3. Male Flower. 4. Single ditto. 5. Cluster of Female Flowers. 6. Single ditto. 7. Germen. 8. The same laid open to shew the Ovule. 9. A variety of the Germen with two Cells. 10. Transverse section of the same.—All but fig. 1 and 2 more or less *magnified.*

Tab. 2870. Fruit of Artocarpus *incisa, α.* Fig. 1. Section of the compound Fruit. 2. Single Fruit, with its enlarged Perianth. 3. The same with the Perianth forced back. 4. Seed. 5. Section of ditto. 6. Embryo.—*natural size.*

Tab. 2871. Artocarpus *incisa, β. (True Bread Fruit.)* Fig. 1. Male Flower. 2. Female ditto, *magnified.* 3. Fruit, one-third of the natural size. 4. Section of the same.

W.J.H. del.

Pub. by S. Curtis, Walworth, Dec. 1, 1828.

Swan sc.

SALVIA INVOLUCRATA. LARGE-BRACTED SAGE.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — LABIATÆ.)

Generic Character.

Cal. bilabiatus, 3—5 dentatus. *Cor.* 2-labiata, *lab. sup.* galeato, *inf.* 3-lobo. *Filamenta* basi appendiculata (antheras spurias sæpe gestantia.) *Caryopses* 4.—*Spr.*

Specific Character and Synonyms.

SALVIA *involucrata;* glabra, foliis cordato-ovatis acuminatis serratis, verticillis sexfloris, bracteis magnis coloratis deciduis, corolla ventricosa glabra calycem longe superante.

SALVIA involucrata. *Cav. Ic. v.* 2. *p.* 3. *t.* 105. *Willd. Sp. Pl. v.* 1. *p.* 147. *Spreng. Syst. Veget. v.* 1. *p.* 62.

SALVIA lævigata. *Humb. Nov. Gen. et Spec. v.* 2. *p.* 238. *t.* 147. *Spreng. Syst. Veget. v.* 1. *p.* 64.

DESCR. *Plant,* as growing in Mr. HERBERT's conservatory, twelve to fourteen feet high, almost woody below, much branched; the older branches terete, the younger ones quadrangular, glabrous. *Leaves* also quite glabrous, large, cordato-ovate, acuminate, serrated, of a deep and singularly beautiful velvety-green above, beneath pale, where the nerves are prominent and often purplish: *petioles* an inch and a half or two inches long. *Flowers* forming a rather handsome thyrsus: but if traced carefully they are seen to arise in threes, which are opposite, hence six form a whorl, each three included, while in bud, within a very large, broadly-ovate, red, nerved *bractea,* which falls off before the blossoms are expanded. *Pedicels* short. *Calyx* tubular, reddish-green, ribbed, slightly pubescent, two lipped; upper lip with one, lower, with two small terminal teeth. *Corolla* large, tubular, somewhat inflated or ventricose, especially on the under side, marked with elevated lines, purplish red: *upper lip* very hairy, entire, with the sides compressed: *lower* reflexed, three lobed. *Stamens* having the transverse appendage remarkably long and large, at one extremity of which is placed a small, yellow, single-celled *anther*. *Style* scarcely exserted: *Stigma* bifid.

Communicated by the kindness of the Hon. and Rev. WILLIAM HERBERT, of Spofforth, from his splendid conservatory: where, planted in the border, it has attained a height of from twelve to fourteen feet, and makes a brilliant appearance, with its numerous heads of richly-coloured blossoms, scarcely less beautiful than those of the well-known SALVIA *splendens*. Mr. HERBERT received the plant from Mr. TATE of the Sloane Street Nursery, who imported the seeds from Mexico. The plant smells not unlike the Common Sage (SALVIA *verbeneca*) of our country.

There can be no question, I think, as to the propriety of considering the S. *lævigata* of HUMBOLDT, synonymous with the S. *involucrata*. The plates and the descriptions agree in every essential particular.

Fig. 1. Bractea, including three Buds, *nat. size*. 2. Calyx. 3. Corolla. 4. Stamens.—*Magnified.*

2873.

Pub by S. Curtis Walworth Decr. 1. 1838.

(2873)

ŒNOTHERA VIMINEA. LARGE PURPLE-FLOWERED TWIGGY EVENING PRIMROSE.

* * *

Class and Order.

OCTANDRIA MONOGYNIA.

(Nat. Ord. — ONAGRARIÆ.)

Generic Character.

Cal. 4-fidus, tubulosus. *Pet.* 4, calyci inserta: *Capsula* 4-locularis, 4-valvis, infera. *Semina* comosa.

Specific Character and Synonym.

ŒNOTHERA* *viminea*; caule erecto ramoso virgato glabro, foliis lanceolatis glaucis integerrimis, capsulis cylindraceo-attenuatis sulcatis pubescentibus.
ŒNOTHERA viminea. *Douglas MSS.*

DESCR. *Stem* annual, erect, glabrous, pale, almost white and polished, three to four feet high, branched, with many long, slender, twiggy branches. *Leaves* three to four inches long, alternate, shortly petioled, upper ones sessile, quite entire, glaucous. *Flowers* sessile in the axils of the superior leaves. *Segments* of the calyx acuminate, something more than half the length of the corolla. *Petals* large, of a fine and bright lilac colour, roundish-cuneate, waved, spreading, minutely crenulate at the extremity. *Stamens*

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* Οίνος, *wine*, and Θηρα, *searching* or *catching*, according to SMITH, (Θηρ, *a wild beast*, according to THÉIS) "from the circumstance of the root having caught the perfume of wine." To what particular plant, however, the antients applied that name is uncertain: not, we may be sure, to any of the species now arranged in the Genus, which are wholly confined to America, with the exception of one or two, said to be found at the Cape of Good Hope.

four long and four short: *Anthers* linear-oblong, longer than the filaments. *Style* almost as long as the anthers. *Stigma* four-cleft, deep purple, the segments patent. *Capsule* rounded, an inch or more long, with eight longitudinal furrows, tapering upwards, downy.

Allied to Œ. *purpurea*, from which it is abundantly distinct. It is a handsome and hardy annual; and if the seeds be sown in the open border in the spring, the plants will continue to blossom throughout the summer. DOUGLAS.

Introduced to the garden of the Horticultural Society, by Mr. DAVID DOUGLAS, in 1827. It was discovered by that most zealous Naturalist, in the interior of Northern California: and it flowered for the first time in this country in the month of June, 1828.

Fig. 1. Stigma, *magnified*. 2. Capsule, *natural size*.

2874.

W J H del.

Pub. by S. Curtis, Walworth, Dec.r 1. 1828.

[illegible]

(2874)

CALCEOLARIA ARACHNOIDEA. COBWEB SLIPPER-WORT.

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata: labium inferius calceiforme, inflatum. *Caps.* semibivalvis, valvulis bifidis.

Specific Character.

CALCEOLARIA * *arachnoidea;* caule herbaceo ramoso patulo, foliisque lingulato-oblongis subdentatis oppositis lanatis, pedunculis terminalibus geminatis elongatis dichotomis, calycibus pedicellisque arachnoideis.
CALCEOLARIA arachnoidea. *Graham in Edin. Phil. Journ.* 1828, *p.* 572.
CALCEOLARIA tinctoria. *Gillies MSS.*

DESCR. *Stem* herbaceous, round, much branched, spreading, succulent, woolly, hairs appressed. *Branches* opposite, spreading, similar to the stem. *Leaves* (with their petioles about five inches long) opposite, lingulate, oblong, narrowing downwards into long petioles, over which they are decurrent, amplexicaul, obscurely toothed, wrinkled, woolly on both sides, midrib and branching veins prominent on the lower side; two uppermost leaves smaller than the others, sessile, cordato-ovate, undulate, and placed at the origin of the peduncles. *Peduncles* terminal, geminate (six inches long) dichotomous, branches spreading, and bearing

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* From *calceolus,* a little slipper, on account of the peculiar form of the lower lip in the flower.

the pedicels in pairs. *Pedicels* round, undivided, and like the calyx clothed with a cobweb-like tomentum. *Bracteas* two, opposite, at the bifurcation of the peduncle, like the uppermost leaves, but smaller. *Calyx* and *segments* equal, ovate, pointed, spreading, woolly on the outside. *Corolla* of an uniform dull purple colour, subglobular, flattened below, glabrous within, upper lip very small, lower crenated, its neck white. *Stamens* rising from the base of the corolla at its sides; *filaments* straight, stout, smooth, supporting the elongated bilocular *anthers* by their middle in contact with the edge of the upper lip of the corolla: *pollen* yellow. *Germen* conical, grooved in its sides. *Style* straight, filiform, exserted. *Stigma* simple, small. *Ovules* very numerous, attached to a large central receptacle, the transverse section of which in each loculament is emarginate. Surface of the germen, outside of the corolla, and inside of the calyx, covered with short, obscure, glandular pubescence.

We received the seeds of this plant from our invaluable correspondent, Dr. GILLIES*, of Mendoza, in January last, having been collected by him in Chili. It has been treated like all the other species of the genus, and hitherto kept in the greenhouse. There is great probability that it may not produce seed; but it strikes very readily by cuttings, the branches even pushing down roots as they lie along the ground.

We fear it will be found more difficult to preserve the only other purple-flowered CALCEOLARIA in cultivation (C. *purpurea*, Edin. Phil. Journ. 1827; Bot. Mag. t. 2775,) which was also introduced through the Botanic Garden, Edinburgh, by seeds sent from our other excellent correspondent Mr. CRUICKSHANKS, as it has hitherto produced very few seeds. An entirely new aspect has been given to our greenhouses within these few years, by the kindness of Dr. GILLIES and Mr. CRUICKSHANKS, particularly in most interesting additions from the genera FUCHSIA, CALCEOLARIA, SALPIGLOSSIS, SCHIZANTHUS, and LOASA. *Graham.*

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* Since the above was printed, Dr. GILLIES, who is now, happily for his friends, returned to this country, has obligingly communicated to me some valuable information respecting the dyeing properties of this CALCEOLARIA: and as it cannot now be inserted here, I shall publish it in an early number, following the description of a CALCEOLARIA *(thyrsiflora,* GRAHAM, equally used as a dye) from the same country. W. J. H.

Fig. 1. Flower.—*Magnified.*

[illegible] del. Pub. by S. Curtis, Walworth, [illegible] 1829. Swan Sc.

(2875)

DIDISCUS CÆRULEUS. BLUE-FLOWERED DIDISCUS.

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Class and Order.

PENTANDRIA DIGYNIA.

(Nat. Ord.—UMBELLIFERÆ.)

Generic Character.

DIDISCUS. *De C. Prodr. v.* 4, *ined.* *Umbella* simplex. *Involucrum* polyphyllum. *Flores ext.* abortivi : *Petala* inæqualia, æstivatione imbricata. *Fructus* orbiculatus, plano-compressus utrinque bivittatus.

Specific Character and Synonyms.

DIDISCUS * *cæruleus ;* piloso-glandulosus, foliis palmato-pinnatifidis, laciniis linearibus incisis, petalis obtusissimis.

DIDISCUS cæruleus. *De C. MSS.*

TRACHYMENE cærulea. *Graham in Edin. New Phil. Journ.* 1828. *p.* 380.

TRACHYMENE cyanea. *Cunningham MSS. apud Hort. Kew.*

DESCR. *Root* annual. *Stem* a foot or more high, terete, branched upwards, and clothed, as is every part of the plant, with soft hairs, many of which are tipped with glands. *Leaves* palmato-pinnatifid, their segments linear, again pinnatifid and incised, the ultimate divisions often trifid, and always acute, the lower extremity tapering into a compressed petiole; the upper ones sessile and gradually becoming less divided, till at length they pass into the simple linear bracteas at the base of the peduncles. *Umbels* terminal, simple, showy. *Involucrum* of many linear-subulate leaflets. *Peduncles* long, whitish, surrounding a flat, greenish disk, which occupies the centre of the umbel, spreading, at length reflexed. *Calyx* obsolete. *Petals* in bud curiously imbricated, slightly unequal (which is best seen before the flower is fully expanded): the outer petal (as regards the umbel) being the largest, all obtuse, spreading, waved, of a beautiful blue color. *Stamens* at first erect. *Filaments* and *Anthers* whitish. *Germen* flat, nearly orbicular, reddish, dotted, and very glandular: *disk* flattish, white: *Styles* linear. *Fruit* between orbicular and reniform, or, rather, composed of two almost exactly orbicular hemicarps *, quite flat, rough or granulated on the surface, having two semicircular, elevated lines or vittæ in the disk, and a thickened margin. *Styles* persistent. *Seed* pendent, obovate.

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* From δις, *two,* and δισκος, *a disk,* in reference to the two flat circular lobes which constitute the fruit.

With the exception of the flowers of some species of ERYNGIUM, I am not acquainted with any Umbelliferous plant whose blossoms are *blue*. It was, then, with no small degree of surprise and pleasure that I received from my friends, the Messrs. SHEPHERDS, in the month of July of this year, 1828, specimens of this most singular plant, which they had raised, at the Liverpool Garden, from seeds sent by Mr. FRASER from New Holland. It has since flowered at Edinburgh and Glasgow, and, I believe, too, at the Horticultural Society's garden, as well as at the Geneva garden, under the care of Professor DE CANDOLLE, the seeds having been derived from the same source as those at Liverpool. Again, Mr. R. CUNNINGHAM, of Kew, has been so good as to convey to me the information, that it has been cultivated at the Royal Gardens there from seeds sent by his brother, Mr. ALLAN CUNNINGHAM, under the name of TRACHYMENE *cyanea* of his MSS.; a name I should gladly have adopted, as given by, probably, its first discoverer, but that it has already been published by Dr. GRAHAM, under that of *cærulea*.

Professor DE CANDOLLE intends separating this as a Genus, or Subgenus, from TRACHYMENE of RUDGE (*Azorella*, LABILLARDIERE) on account of its different habit, bright blue flowers, and the peculiar structure of the fruit, very much resembling that of a BISCUTELLA. In my specimens of true TRACHYMENE, of which I have several species, the Umbels are compound. I may observe, that the TRACHYMENE *incisa* of RUDGE and SIEBER will belong to the same groupe as the present plant, but in a dried state it does not appear that the flowers are blue.

DIDISCUS *cyaneus* is one amongst a few of the Umbelliferous plants which eminently deserves a place in every collection, and in all probability it will be found to succeed well in the open air.

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* A very expressive term employed by Prof. DE CANDOLLE, to indicate the two united portions of the fruit of the Natural Order UMBELLIFERÆ.

Fig. 1. Flower Bud. 2. Flower partly expanded. 3. Fully expanded Blossom. 4. Stamen. 5. Fruit. 6. Hemicarp, cut open to shew the Seeds —*Magnified.*

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